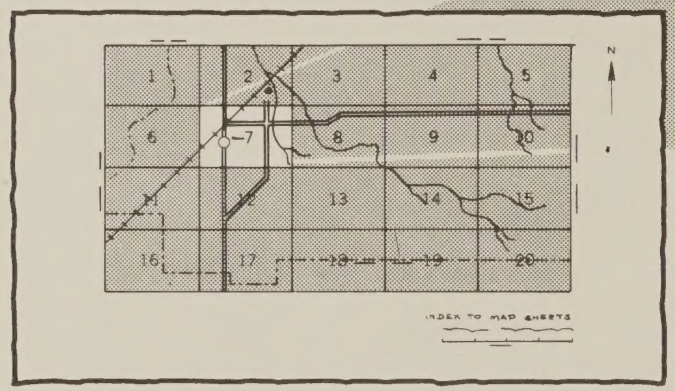
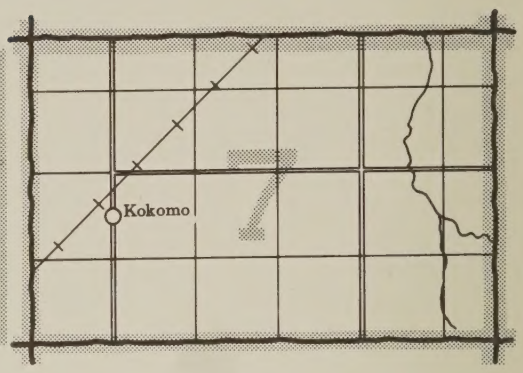
Soil survey of
Hancock County, Mississippi

United States Department of Agriculture
Soil Conservation Service
in cooperation with
Mississippi Agricultural and Forestry Experiment Station

HOW TO USE

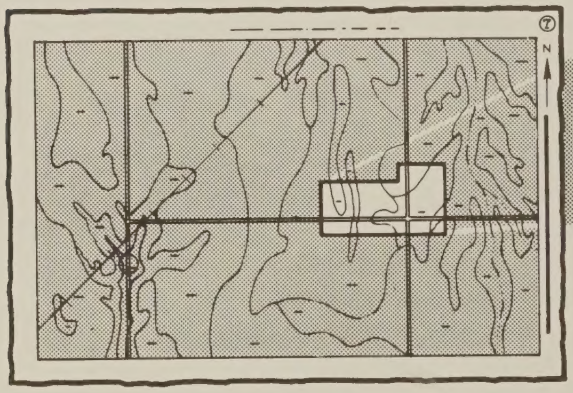
1. Locate your area of interest on the "Index to Map Sheets" (the last page of this publication).

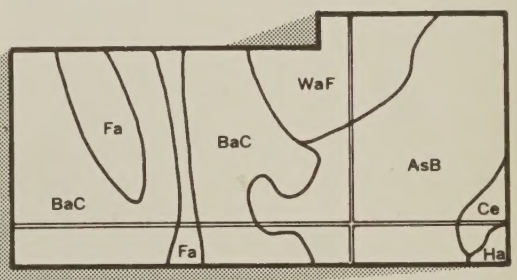




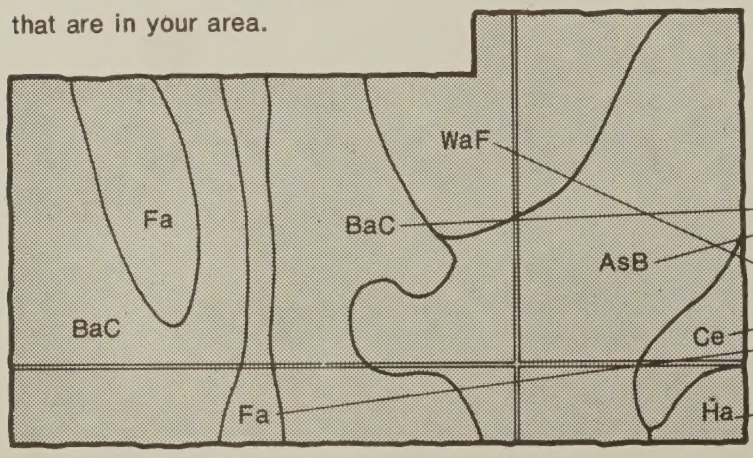
2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.





4. List the map unit symbols that are in your area.

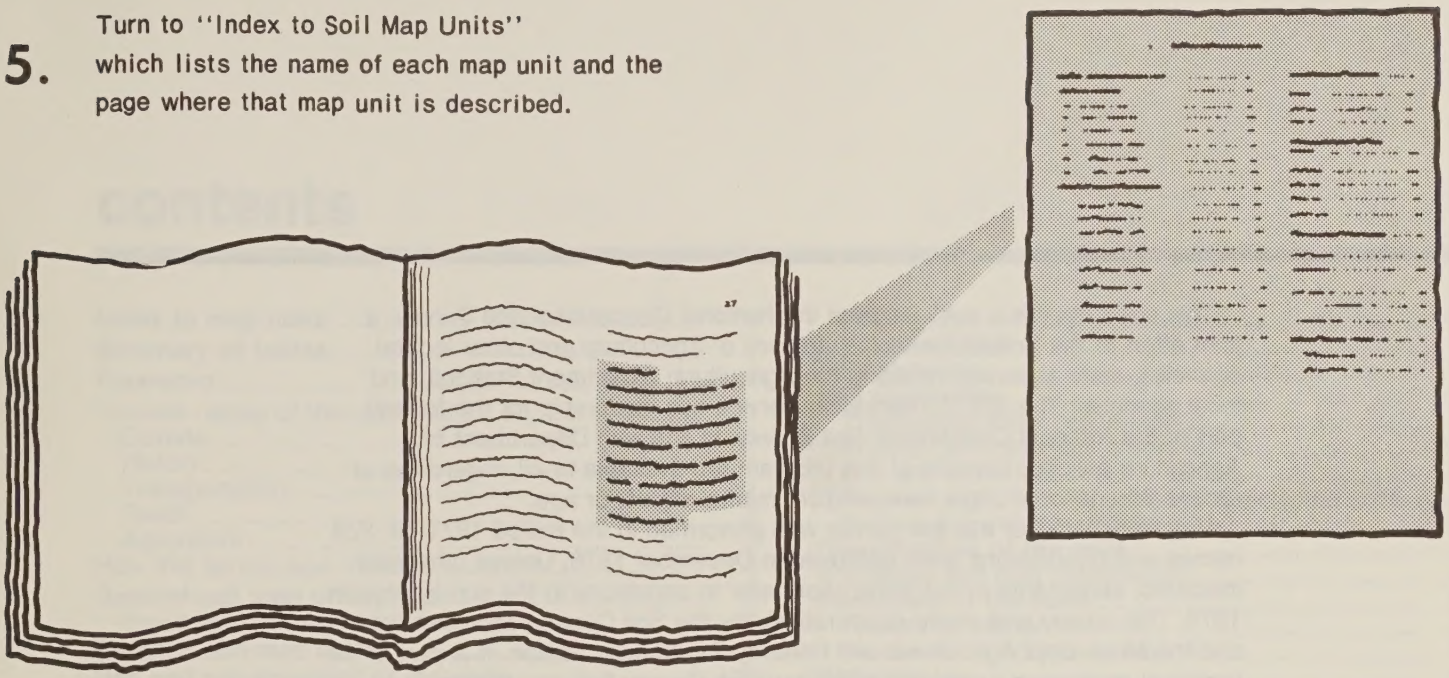


Symbols

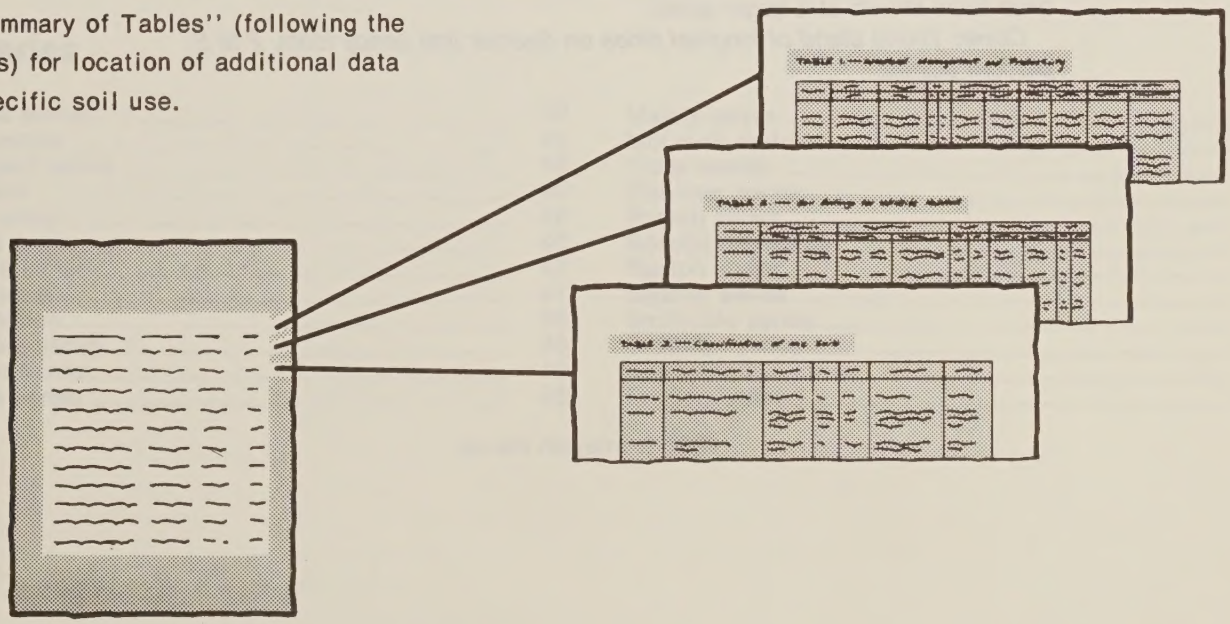
AsB
BaC
Ce
Fa
Ha
WaF

THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1971-78. Soil names and descriptions were approved in December 1978. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1978. This survey was made cooperatively by the Soil Conservation Service and the Mississippi Agricultural and Forestry Experiment Station. It is part of the technical assistance furnished to the Hancock County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Young stand of longleaf pines on Saucier fine sandy loam, 2 to 5 percent slopes.

contents

soil series

Issued November 1981

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foreword

This soil survey contains information that can be used in land-planning programs in Hancock County, Mississippi. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

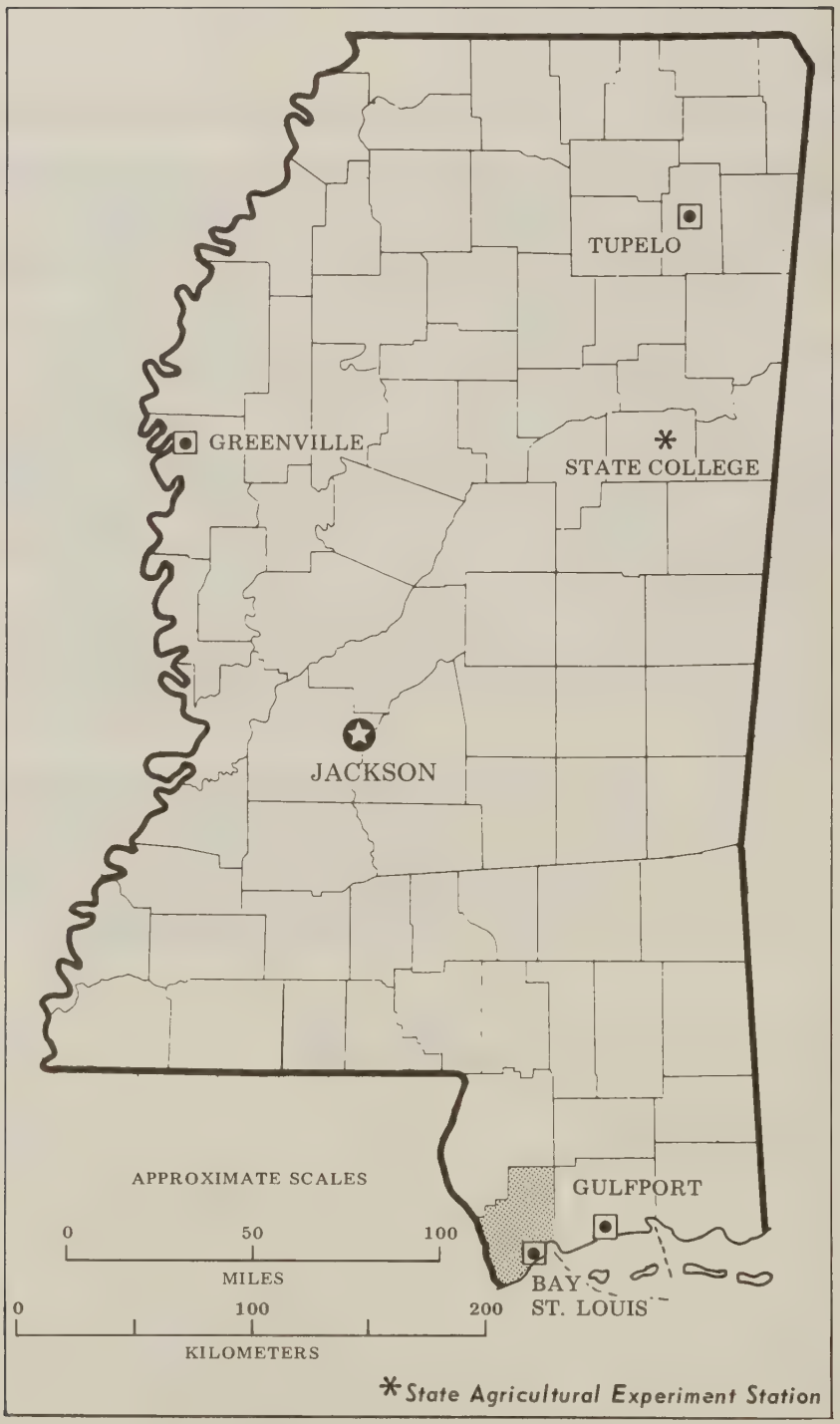
This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.

Chester F. Bellard

Chester F. Bellard
State Conservationist
Soil Conservation Service



Location of Hancock County in Mississippi.

soil survey of
Hancock County, Mississippi

By William I. Smith, Paul Nichols, Jr., Lloyd B. Walton,
and Lloyd B. Hale

United States Department of Agriculture, Soil Conservation Service
in cooperation with the Mississippi Agricultural and Forestry Experiment Station

HANCOCK COUNTY is the most western of the coastal counties of Mississippi. It has a land area of about 485 square miles, or 310,400 acres, that includes about 5,900 acres of water. Areas of water are less than 40 acres in size or are perennial streams less than one-eighth mile wide. Bay Saint Louis, the county seat, is in the southeastern part of the county. In 1970, the population of the county was about 17,400.

The county is bounded on the north by Pearl River County, on the east by Harrison County, on the south by the Mississippi Sound of the Gulf of Mexico, and on the west by St. Tammany Parish, La.

An earlier survey of Hancock County was published in 1930 (*6*). The present survey updates the earlier survey and provides additional information and larger maps that show the soils in greater detail.

Descriptions, names, and delineations of soils in this soil survey may not fully agree with those on soil maps for adjacent counties. Differences are the result of modifications in series concepts, intensity of mapping, or the extent of soils within the survey.

general nature of the county

This section provides information about the climate, history, transportation, relief, and agriculture of Hancock County.

climate

The National Climatic Center, Asheville, N.C., prepared this section.

In Hancock County the long summers are hot and humid, but the coast is frequently cooled by sea breezes. Winters are warm and are only occasionally interrupted by incursions of cool air from the north. Rains occur throughout the year, and precipitation is adequate for the commonly grown crops.

Table 1 gives data on temperature and precipitation for the survey area, as recorded at Bay Saint Louis, Miss., from 1951 to 1973. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 52 degrees F, and the average daily minimum temperature is 43 degrees. The lowest temperature on record, which occurred at Bay Saint Louis on January 12, 1962, is 10 degrees. In summer the average temperature is 81 degrees, and the average daily maximum temperature is 89 degrees. The highest recorded temperature, which occurred on August 29, 1954, is 102 degrees.

Growing degree days, shown in table 1, are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

Of the total annual precipitation, 31 inches, or 55 percent, usually falls in April through September, which includes the growing season for most crops. In 2 years out of 10, the rainfall in April through September is less than 24 inches. The heaviest 1-day rainfall during the period of record was 10.85 inches at Bay Saint Louis on April 27, 1964. Thunderstorms occur on about 70 days each year, and most occur in summer.

Snowfall is rare; in 90 percent of the winters there is no measurable snowfall. In 10 percent, the snowfall, usually of short duration, is more than 2 inches. The heaviest 1-day snowfall on record was more than 11 inches.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 90 percent. The percentage of possible sunshine is 65 in summer and 50 in winter. The prevailing wind is from the south. Average windspeed is highest, 9 miles per hour, in winter.

Every few years a hurricane crosses the area.

history

Hancock County, established December 14, 1812, was named in honor of John Hancock, the first signer of the Declaration of Independence. Harrison, Stone, and part of Pearl River Counties were also formed from the original Hancock County. Bay St. Louis, the county seat, and Waveland are the only incorporated towns in the county. The smaller villages include Kiln, Pearlington, and Clermont Harbor. The population has increased in recent years, partly because the National Space Technology Laboratories were located in the county. This facility has provided many new jobs. The moderate climate has also encouraged settlement in the area.

The county is mostly agricultural, but it is also the site of several industries. The industries include forest products, seafood, marine concrete structures, utility cables, aluminum door frames, and an ammunitions plant as well as industries associated with the National Space Technology Laboratories. With the discovery of natural gas in the county, the production of natural gas is rapidly expanding.

transportation

Transportation facilities in the county include the Stennis International Airport, a modern facility for jet aircraft; the Louisville and Nashville Railroad, which runs near the coast from New Orleans to Mobile; and The Hancock County Port Terminal, which accommodates barges and small ships. The county is traversed from north to south by Mississippi Highways 603 and 607 and from east to west by Interstate 10 and U.S. Highway 90. Mississippi Highway 43 runs in a northwesterly-southwesterly direction across the county.

relief

Hancock County is divided into four physiographic provinces—the flatwoods, the tidal marsh, the terraces and flood plain of the Pearl River, and the Coastal Plain uplands.

The relatively low flat area, locally called the flatwoods, makes up about 45 percent of the county. It is mainly in the south-central and southwestern parts of the county. This area extends about 20 miles from north to south, and ranges from about 5 to 13 miles in width. The soils of the flatwoods are nearly level to gently sloping and incline very slightly to the south. Drainage water moves slowly, following shallow depressions which are only slightly lower than the surrounding land. A few areas, such as the Devils Swamp, drain into shallow stream channels. Throughout the flatwoods, narrow strips of better drained soils are at slightly higher elevations along streams and on low ridges.

The tidal marsh makes up about 6 percent of Hancock County. It consists of broad, grassy flats in the extreme southern and southwestern parts of the county, adjoining the Gulf of Mexico. One large area begins near the mouth of the Jourdan River and extends several miles upstream. The largest area begins just west of Clermont Harbor and extends 19 miles west along the coast and up the Pearl River to near the Interstate Highway 10 bridge. Areas vary in width from less than one-quarter mile near U.S. Highway 90 to nearly 3 miles southeast of Ansley. The soils of the tidal marsh are nearly level and very poorly drained. They are flooded daily with seawater.

The low-lying terraces and the flood plain of the Pearl River make up about 4 percent of the county. This area is in the western part of the county. It has maximum north to south length of about 10 miles and an east to west width ranging from less than 1 mile to more than 3 miles. The soils of this low, flat area are nearly level and somewhat poorly drained or poorly drained. Natural stream channels are well defined. Flooding is frequent.

The Coastal Plain uplands make up about 45 percent of the county. They form an area of older, more weathered soils in the northeastern part of the county. This area is about 18 miles in length from north to south near the Harrison County line and is about 16 miles in width at the widest point. The soils are nearly level to moderately steep. The soils on uplands are mostly well drained or moderately well drained. Those on many of the flood plains and in drainageways are poorly drained and wet. The streams in this area have dissected the surface more thoroughly and cut deeper valleys than in other parts of the county. Most of the ridges are fairly flat, and many are broad and have short, moderately steep sides. The main creeks flow southward and are roughly parallel before intersecting; some of the smaller drainageways are dendritic in form.

The larger streams of the county flow through a nearly level flood plain, which ranges in width from about 1/4 mile to nearly 1 mile. Many of the stream terraces are only slightly higher than the stream bottoms and are subject to flooding. The northern, central, and eastern parts of the county are drained by the Jourdan River and the Wolf River and their tributaries, which empty into the St. Louis Bay. The western part of the county is drained by the Pearl River. Minor streams drain the other areas.

The elevation decreases from north to south; the highest elevation of about 238 feet is about 1 mile south of the Pearl River County line at Mississippi Highway 53. The elevation at Kiln is about 30 feet, and at Waveland it is 15 feet. The elevation grades to sea level at the coastline.

agriculture

The main farm products grown in Hancock County are timber, soybeans, corn, and livestock. There are also small amounts of watermelons, potatoes, hay, and rice grown.

About 76 percent of the county is commercial forest, and large paper companies own part of the acreage.

Beef cattle are the most important of the livestock enterprises that include hogs, sheep, and several dairy herds. Soybeans is the most extensive cultivated crop, with about 11,000 acres planted each year. About 3,000 acres of corn and about 350 acres of watermelons are grown. There is also a limited amount of catfish farming and rice farming.

how this survey was made

Soil scientists made this survey to learn what soils are in the survey area, where they are, and how they can be used. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and the kinds of rock. They dug many holes to study soil profiles. A profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface down into the parent material, which has been changed very little by leaching or by plant roots.

The soil scientists recorded the characteristics of the profiles they studied and compared those profiles with others in nearby counties and in more distant places. They classified and named the soils according to nationwide uniform procedures. They drew the boundaries of the soils on aerial photographs. These photographs show trees, buildings, fields, roads, and other details that help in drawing boundaries accurately. The soil maps at the back of this publication were prepared from aerial photographs.

The areas shown on a soil map are called map units. Most map units are made up of one kind of soil. Some are made up of two or more kinds. The map units in this survey area are described under "General soil map units" and "Detailed soil map units."

While a soil survey is in progress, samples of some soils are taken for laboratory measurements and for engineering tests. All soils are field tested to determine their characteristics. Interpretations of those characteristics may be modified during the survey. Data are assembled from other sources, such as test results, records, field experience, and state and local specialists. For example, data on crop yields under defined management are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it can be used by farmers, rangeland and woodland managers, engineers, planners, developers and builders, home buyers, and others.

general soil map units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Descriptions of map units on the general soil map follow.

dominantly nearly level to moderately steep soils; on uplands

This broad group consists of three map units made up of nearly level to moderately steep soils on uplands. The major soils are the Poarch, Saucier, McLaurin, Smithton, Smithdale, Escambia, and Malbis soils. Of the major soils, only the Smithton soils in general map unit 2 are subject to flooding. The soils are well drained to poorly drained and have loamy surface layers. The topography is mainly hills that have broad ridgetops and short side slopes dissected by short drainageways and narrow flood plains. Slopes range from 0 to 17 percent. This group makes up about 37 percent of the county.

1. Poarch-Saucier-Smithdale

Nearly level to moderately steep, well drained and moderately well drained loamy soils; on broad upland ridges and short side slopes

This map unit consists mainly of nearly level and gently sloping soils on long, broad ridgetops and moderately steep soils on short side slopes. The many hills are dissected by short drainageways and narrow flood plains. Slopes range from 0 to 17 percent.

This map unit makes up about 21 percent of the county. It is about 40 percent Poarch soils, 30 percent Saucier soils, 10 percent Smithdale soils, and 20 percent minor soils.

Poarch soils are on the ridgetops and side slopes. These soils are well drained and contain plinthite in the lower part of the subsoil. The moderately well drained Saucier soils are on ridgetops and side slopes. The well drained Smithdale soils are on the steeper parts of the side slopes.

The minor soils are the moderately well drained Harleston soils on low ridges, the moderately well drained Malbis soils on ridges, and the poorly drained Smithton soils in narrow drainageways.

This unit is mainly wooded, but some soils on ridges and side slopes are used for crops and pasture. The Poarch and Saucier soils on the broad ridges are well suited to crops, pasture, and woodland. The Poarch, Saucier, and Smithdale soils on the side slopes are well suited to woodland. The steepness of side slopes is the main limitation for farming and other uses. Mainly because of steepness of slopes, the limitations for urban uses are moderate for Poarch and Saucier soils and severe for Smithdale soils.

2. Poarch-Smithton-Escambia

Nearly level to strongly sloping, well drained, poorly drained, and somewhat poorly drained loamy soils; on broad upland ridges, wet flats and drainageways, and low upland ridges

This map unit consists mainly of nearly level and gently sloping soils on long, broad ridgetops and strongly sloping soils on short side slopes and low ridges and in narrow drainageways. The hills and low ridges are dissected by short drainageways and narrow flood plains. Slopes range from 0 to 12 percent.

This map unit makes up about 15 percent of the county. It is about 40 percent Poarch soils, 20 percent Smithton soils, 10 percent Escambia soils, and 30 percent minor soils.

Poarch soils are on the ridgetops and side slopes. These soils are well drained and contain plinthite in the lower part of the subsoil. The poorly drained Smithton soils are on wet flats and in drainageways. The somewhat poorly drained Escambia soils are on low upland ridges and side slopes.

The minor soils are the well drained McLaurin soils and the moderately well drained Malbis and Saucier soils. They are on ridgetops and side slopes.

This unit is mainly wooded, but some soils on ridges and side slopes are used for crops and pasture. The Poarch soils and Escambia soils on the ridges are well suited to crops, pasture, and woodland. The Smithton soils are poorly suited to row crops and pasture because of wetness and flooding but are well suited to woodland. The limitations for urban uses are severe for the Smithton soils because of wetness and flooding, moderate for the Poarch soils because of steepness of slope, and moderate for the Escambia soils because of wetness.

3. McLaurin-Saucier-Malbis

Nearly level to strongly sloping, well drained and moderately well drained loamy soils; on broad upland ridges and short side slopes

This unit consists mainly of nearly level to gently sloping soils on long, broad ridgetops and strongly sloping soils on short side slopes. The hills are dissected by many short drainageways and narrow flood plains. Slopes range from 0 to 12 percent.

This map unit makes up about 3 percent of the county. It is about 30 percent McLaurin soils, 30 percent Saucier soils, 25 percent Malbis soils, and 15 percent minor soils.

The well drained McLaurin soils are on the ridgetops and side slopes. The moderately well drained Saucier and Malbis soils are also on ridgetops and side slopes.

The minor soils are the well drained Ruston and Poarch soils on ridges and side slopes, the well drained Smithdale soils on steeper side slopes, and the poorly drained Smithton soils on narrow, wet flats and in drainageways.

This unit is mainly wooded, but some soils on ridges and side slopes are used for crops and pasture. The McLaurin, Saucier, and Malbis soils on ridges are well suited to crops, pasture, and woodland. The McLaurin and Saucier soils on the side slopes are well suited to woodland and are suited to pasture. The steepness of side slopes is the main limitation for farming and most other uses. Saucier and Malbis soils have moderate limitations for urban uses. The limitations for urban uses for McLaurin soils on ridges are slight.

dominantly nearly level to gently sloping soils on broad, wet upland flats and low ridges

This broad group consists of one general map unit that is made up of nearly level to gently sloping soils. The soils are on broad, wet upland flats and low ridges. The major soils are the silty Atmore and Beauregard soils and the loamy Escambia soils. The soils are moderately well drained to poorly drained. The soils are not subject to flooding. Slopes range from 0 to 5 percent. This group makes up about 12 percent of the county.

4. Atmore-Beauregard-Escambia

Nearly level to gently sloping, moderately well drained to poorly drained silty and loamy soils; on broad, wet upland flats and low ridges

This map unit consists mainly of nearly level soils on ridgetops and gently sloping soils on side slopes. The side slopes are dissected by many short drainageways that empty onto narrow flood plains. Slopes range from 0 to 5 percent.

This map unit makes up about 12 percent of the county. It is about 30 percent Atmore soils, 25 percent Beauregard soils, 15 percent Escambia soils, and 30 percent minor soils.

The poorly drained Atmore soils are on broad, wet upland flats. The moderately well drained Beauregard soils are on low ridges. The somewhat poorly drained Escambia soils are on low ridges and side slopes.

The minor soils are the moderately well drained Harleston soils on low ridges, the poorly drained Smithton soils on broad, wet flats and in drainageways, and the poorly drained Guyton soils on wet flats and in drainageways.

This unit is mainly wooded, but some areas are used for crops and pasture. The Beauregard and Escambia soils, on the low ridges, are well suited to woodland and cropland. The Beauregard soils are suited to pasture, and the Escambia soils are well suited to pasture. On broad wet flats, the Atmore soils of this unit are suited to pasture and woodland and are poorly suited to cropland. The limitations of Atmore and Beauregard soils for urban uses are severe because of wetness, and the limitations of Escambia soils for urban uses are moderate.

dominantly nearly level to gently sloping soils on broad flats and flood plains

This broad group consists of four general map units that are made up mainly of nearly level to gently sloping soils. These soils are mostly on wide flood plains of the larger streams, broad wet upland flats and drainageways, low ridges, and stream terraces.

The major soils are Arkabutla, Smithton, Guyton, Escambia, Rosebloom, Harleston, and Trebloc soils. They are moderately well drained to poorly drained and are loamy or silty. The Arkabutla and Rosebloom soils in unit 6, the Smithton soils in unit 7, and the Trebloc soils in unit 8 are subject to flooding. Slopes range from 0 to 5 percent. This group makes up about 45 percent of the county.

5. Atmore-Smithton-Escambia

Nearly level to gently sloping, poorly drained and somewhat poorly drained silty and loamy soils; on broad, wet upland flats and drainageways and low upland ridges

This map unit consists mainly of nearly level soils on broad, wet flats that are broken up by scattered low

ridges of nearly level to gently sloping soils. This unit is drained by wide, poorly defined drainageways. Slopes range from 0 to 5 percent.

This map unit makes up about 17 percent of the county. It is about 35 percent Atmore soils, 25 percent Smithton soils, 10 percent Escambia soils, and 30 percent minor soils.

The poorly drained Atmore soils are on broad, wet upland flats. The poorly drained Smithton soils are on low, wet flats and drainageways. The somewhat poorly drained Escambia soils are on low ridges.

The minor soils are the moderately well drained Beauregard and Harleston soils on low ridges and side slopes and the poorly drained Guyton soils on wet flats and in drainageways.

This unit is mainly wooded, but a small acreage is pasture and urban areas. The Smithton and Escambia soils are well suited to woodland, and the Atmore soils are suited to pasture and woodland. Smithton soils are poorly suited to cropland because of wetness and flooding, and Atmore soils are poorly suited to cropland because of wetness. Escambia soils are well suited to cropland. Atmore and Smithton soils have severe limitations for urban uses because of wetness. Escambia soils have moderate limitations for urban uses because of wetness.

6. Arkabutla-Rosebloom

Nearly level, somewhat poorly drained and poorly drained silty soils; on broad flood plain

This map unit consists of nearly level soils on the broad flood plain. It is dissected by many short drainageways and smaller, narrow flood plains. Slopes range from 0 to 2 percent.

This map unit makes up about 2 percent of the county. It is about 50 percent Arkabutla soils, 40 percent Rosebloom soils, and 10 percent minor soils.

Arkabutla soils are in the better drained areas of the flood plain near stream channels and drainageways. These soils are somewhat poorly drained. The poorly drained Rosebloom soils are in the lower, flat, wetter areas of the flood plain.

The minor soils are the excessively drained Eustis soils on higher elevations along the streams and the moderately well drained silty soils near the Pearl River and larger streams.

The soils of this unit are wooded. Small areas are mined for sand and gravel. These soils are well suited to woodland. The Arkabutla and Rosebloom soils are poorly suited to pasture, crops, and urban uses because of the hazard of frequent flooding.

7. Smithton-Harleston-Escambia

Nearly level to gently sloping, moderately well drained to poorly drained loamy soils; on broad wet flats and drainageways, stream terraces, and low upland ridges

This map unit consists largely of nearly level to gently sloping soils on long broad flood plains, terraces, and low upland ridges. Many narrow, short drainageways dissect the unit and lead to larger drainageways and streams. Slopes range from 0 to 5 percent.

This map unit makes up about 20 percent of the county. It is about 35 percent Smithton soils, 30 percent Harleston soils, 9 percent Escambia soils, and 26 percent minor soils.

Smithton soils are on low, wet flats and terraces of the larger streams. These soils are poorly drained. The moderately well drained Harleston soils are on low upland ridgetops and side slopes. The somewhat poorly drained Escambia soils are on low ridges.

The minor soils are the excessively drained Bigbee soils on flood plains near stream channels, the well drained Poarch soils on ridgetops and side slopes, the Atmore soils on broad, wet flats and in drainageways, and the Bibb soils, on flood plains some distance from the stream channels.

This unit is mainly wooded, but some areas are used for crops and pasture. The soils of this map unit are well suited to woodland.

The Harleston soils and Escambia soils on low ridgetops and side slopes are well suited to cropland and pasture. The Smithton soils on wet flats and in drainageways are poorly suited to cropland and pasture because of wetness and flooding. The Smithton soils of this map unit have severe limitations for urban uses because of frequent flooding. Harleston and Escambia soils have moderate limitations for residential and urban uses because of wetness.

8. Guyton-Atmore-Trebloc

Nearly level, poorly drained silty soils; on broad wet flats and drainageways

This map unit consists of wet, nearly level soils along broad, flat drainageways. Stream channels are mostly shallow, and the area is low and wet. Slopes range from 0 to 2 percent.

This map unit makes up about 4 percent of the county. It is about 30 percent Guyton soils, 24 percent Atmore soils, 19 percent Trebloc soils, and 27 percent minor soils.

Guyton and Trebloc soils are on low, wet flats and in drainageways. These soils are poorly drained. The poorly drained Atmore soils are on broad, wet upland flats and contain plinthite in the subsoil.

The minor soils are the moderately well drained Beauregard soils on low ridges and the poorly drained Smithton soils on broad, wet flats, drainageways, and stream terraces.

This unit is mainly wooded. A few areas are cropland, pasture, or urban land. The Guyton and Trebloc soils are well suited to woodland, and the Atmore soils are suited to woodland. The Trebloc soils are poorly suited to cropland and pasture because of frequent flooding and

wetness. The Atmore and Guyton soils are suited to pasture and are poorly suited to cultivated crops because of wetness. The soils of this map unit have severe limitations for urban uses because of wetness. Trebloc soils have severe limitations because of wetness and frequent flooding.

dominantly nearly level soils of the tidal marsh

This broad group consists of one general map unit made up of nearly level soils. These soils occur on tidal marshes and are flooded daily with seawater or brackish water. The soils are very poorly drained and mucky or clayey. Slopes range from 0 to 1 percent. This group makes up about 6 percent of the county.

9. Handsboro-Bohicket

Nearly level, very poorly drained, mucky and clayey soils; on tidal marshes that are flooded daily by tidal waters

This map unit consists of wet, nearly level soils on large, broad, grassy flats adjoining the Gulf of Mexico. The unit is dissected by many narrow drainageways. It is flooded daily with salt-, or brackish, water. Slopes range from 0 to 1 percent.

This map unit makes up about 6 percent of the county. It is about 70 percent Handsboro soils and 5 percent Bohicket soils. The rest is small areas of stratified mineral soil, small areas of thin organic soils over mineral material, and small areas of organic soils without strata of mineral material.

Both of the major soils are very poorly drained and are on tidal marshes along the coast. The Bohicket soils contain more mineral soil material and less organic matter than the Handsboro soils.

The minor soils include some composed of very poorly drained stratified mineral material and some organic soils without strata of mineral material. All are along streams of the broad, wet, grassy flats of the tidal marsh.

This unit supports a lush growth of salt-tolerant plants, mostly black needlerush and cordgrass. Handsboro and Bohicket soils are poorly suited to woodland, cropland, and pasture because of flooding by seawater or brackish water. Limitations for urban uses are severe because of wetness and flooding.

broad land use considerations

The soils in Hancock County vary widely in their suitabilities and limitations for major land uses. Approximately 2 percent of land in the county is used for cultivated crops, mainly soybeans and corn. This cropland is generally in units 1, 2, 3, and 4. The erosion hazard is slight or moderate on the nearly level or gently sloping soils on ridges in units 1, 2, and 3. Wetness is a significant limitation for cropland in unit 4. No crops are grown in units 6, 8, and 9, and few are grown in units 5 and 7. Flooding and wetness are the main limitations to row crops in these areas. The soils of unit 9, mainly tidal marshes, are flooded daily by seawater.

Approximately 7 percent of the land in the county is in pasture. Most of the pasture is on the soils of units 1, 2, 3, and 4. The soils in these areas which are suited or are well suited to pasture grasses and legumes include the Atmore, Beauregard, Escambia, Malbis, McLaurin, Poarch, and Saucier soils.

About 76 percent of the county is in woodland. The soils of units 1, 2, 3, 4, 5, 6, 7, and 8 are well suited to woodland, except the Atmore soils, which are only suited to woodland. Trees cannot survive on unit 9, which is flooded daily by seawater. Most vegetation in area 9 is salt-tolerant grasses and plants.

About 24,000 acres of Hancock County has been developed into urban, or built-up, areas. In the southern part of the county, the soils of unit 4 offer somewhat better prospects for urban uses than other units. However, many areas in unit 4 have severe limitations for urban uses because of wetness. The more favorable areas for urban uses have moderate limitations because of wetness. The dominant soils of units 5, 7, 8, and 9 have severe limitations for urban uses because of wetness or flooding. In the northern and eastern parts of the county, the broad, nearly level or gently sloping soils on ridges of units 1, 2, and 3 have slight limitations or have moderate limitations because of wetness. These areas have more favorable soil properties for urban development than any of the other six general soil map units of Hancock County.

detailed soil map units

The map units on the detailed soil maps at the back of this survey represent the soils in Hancock County. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and management of the soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil, a brief description of the soil profile, and a listing of the principal hazards and limitations to be considered in planning management.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Saucier fine sandy loam, 2 to 5 percent slopes, is one of several phases in the Saucier series.

Some map units are made up of two or more major soils. These map units are called soil complexes or soil associations.

A *soil complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Saucier-Susquehanna complex, 5 to 12 percent slopes, is an example.

A *soil association* is made up of two or more geographically associated soils that are shown as one unit on the maps. Because of present or anticipated soil uses in the survey area, it was not considered practical or necessary to map the soils separately. The pattern and relative proportion of the soils are somewhat similar. Arkabutla-Rosebloom association, frequently flooded, is an example.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Beaches is an example. Miscellaneous areas are shown on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

The detailed map units are described on the following pages.

AR—Arkabutla-Rosebloom association, frequently flooded. This map unit consists of somewhat poorly drained and poorly drained silty soils on the flood plain of the Pearl River that occur in a regular and repeating pattern. It is subject to flooding two or more times each year. Slopes range from 0 to 2 percent.

Areas of these soils range from about 200 to over 1,000 acres. The composition of this unit varies from one map area to another, but mapping was controlled well enough for the expected use of the soils.

The somewhat poorly drained Arkabutla soils are in the better drained areas near stream channels and drainageways. The poorly drained Rosebloom soils are on wet flats and in drainageways.

About 50 percent of the map unit is Arkabutla soils. Typically, the surface layer is silt loam about 5 inches thick. The upper 1 inch is dark brown, and the lower 4 inches is brown. The upper part of the subsoil is brown silt loam to a depth of 14 inches. From 14 to 23 inches the subsoil is light brownish gray silt loam that has brownish mottles. The lower part of the subsoil to a depth of 60 inches is light brownish gray silty clay loam that has mottles in shades of brown.

Arkabutla soils are strongly or very strongly acid throughout. Permeability is moderate, and the available water capacity is very high. Runoff is slow, and the erosion hazard is slight.

About 40 percent of the unit is Rosebloom soils. Typically, the surface layer is silt loam about 5 inches thick; the upper 1 inch is brown, and the lower 4 inches is grayish brown. The upper part of the subsoil, to a depth of 35 inches, is light brownish gray or gray silt loam mottled in shades of brown. The lower part to 60 inches is gray silty clay loam mottled in shades of brown.

Rosebloom soils are strongly or very strongly acid throughout. Permeability is slow, and available water capacity is very high. Runoff is very slow, and the erosion hazard is slight.

Small areas of Eustis soils on higher positions, locally called islands, and moderately well drained silty soils near the East Pearl River and large streams make up about 10 percent of the association.

These Arkabutla and Rosebloom soils are wooded. These soils are poorly suited to crops and pasture because of wetness and flooding. The Arkabutla soils occupy areas near stream channels that have better drainage than the Rosebloom soils. These soils are well suited to cherrybark oak, eastern cottonwood, green ash, loblolly pine, Nuttall oak, slash pine, sweetgum, water oak, and yellow-poplar. The poorly drained Rosebloom soils are in flat, wetter areas. These soils are well suited to green ash, Nuttall oak, eastern cottonwood, water oak, willow oak, loblolly pine, and sweetgum. Wetness is the main limitation in woodland management and harvesting the tree crop, but this can be partly overcome by using special equipment or logging during the drier seasons.

This unit has severe limitations for urban uses because of flooding and wetness. Wetness severely limits the use of these soils for septic tank absorption fields.

These soils are in capability subclass Vw; Arkabutla soils are in woodland suitability group 1w8, and Rosebloom soils are in woodland suitability group 2w9.

At—Atmore silt loam. This poorly drained soil is on broad, wet, upland flats. Slopes range from 0 to 2 percent.

Typically, the surface layer is very dark gray silt loam about 5 inches thick. The subsurface layer, to a depth of about 16 inches, is dark grayish brown silt loam mottled in shades of brown and gray. The upper part of the subsoil, to about 39 inches, is grayish brown silt loam mottled in shades of gray and brown becoming gray below about 26 inches. From 39 to 55 inches, the subsoil is silty clay loam mottled in shades of gray, brown, and red and contains plinthite nodules. The lower part, to 60 inches, is light gray silty clay loam mottled in shades of brown, yellow, and red.

This soil is strongly or very strongly acid throughout. The permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is high. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Harleston, Plummer, and Smithton soils.

Over half of this Atmore soil is used for woodland. The remainder is idle, in pasture, or in urban uses. This soil is poorly suited to row crops, small grains, and truck crops because of wetness, but it is suited to pasture. When crops are grown, management includes returning crop residues to the soil, row arrangement, and using open ditches to remove excess water. Management for pasture includes proper stocking, controlled grazing, and weed and brush control.

This soil is suited to loblolly and slash pines, sweetgum, Nuttall oak, American sycamore, and tupelos. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by using special equipment or logging during the drier seasons.

This soil has severe limitations for urban uses because of wetness. Wetness severely limits the use of this soil for septic tank absorption fields.

This Atmore soil is in capability subclass IVw and in woodland suitability group 3w9.

Ba—Beaches. This miscellaneous area is composed of clean white sand that has a few shells.

It occurs as a long band between Beach Boulevard and the Mississippi Sound and St. Louis Bay. These areas are partly covered by tidewater every day and are completely submerged during high tides. Included in mapping are the adjacent areas above daily tide that are kept clean of vegetation by maintenance vehicles for the resorts.

This miscellaneous area supports no vegetation. It is suited to recreation.

No capability rating or woodland suitability rating given.

Be—Beauregard silt loam. This moderately well drained soil is on low upland ridges. Slopes range from 0 to 1 percent.

Typically, the surface layer is very dark gray silt loam about 4 inches thick. The subsurface layer is pale brown silt loam to a depth of about 9 inches. The upper part of the subsoil, to about 19 inches, is yellowish brown silt loam mottled in shades of yellow and gray. From 19 to 42 inches the subsoil is silty clay loam mottled in shades of brown, yellow, and gray. The lower part, to a depth of 60 inches, is light gray silty clay loam mottled in shades of yellow and brown.

This soil ranges from slightly acid to strongly acid in the surface layer and is medium acid or strongly acid in the subsoil. The permeability is moderately slow in the upper part of the subsoil and slow in the lower part. The available water capacity is very high. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Atmore, Escambia, Harleston, and Smithton soils.

Most of this Beauregard soil is in woodland. A small acreage is in pasture or urban uses. This soil is well suited to corn and soybeans and is suited to pasture plants. With good management, row crops can be grown

every year. Row arrangement and surface drainage ditches are needed to remove surface water. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to slash (fig. 1), loblolly, and longleaf pines and sweetgum. Wetness is the main limitation in woodland management and harvesting the tree crop, but this limitation can be partly overcome by logging during the drier season.

This soil has severe limitations for urban uses because of wetness. Wetness severely limits the use of this soil for septic tank absorption fields.

This Beauregard soil is in capability subclass IIw and in woodland suitability group 2w8.

Bg—Bigbee-Bibb complex, frequently flooded. This map unit consists of excessively drained and poorly drained soils on the flood plains of creeks and rivers. The landscape is low and densely forested with mixed pines and hardwoods. Many sand bars, oxbow lakes, old river runs, and narrow sloughs exist in these areas. These soils are flooded several times a year. Slopes range from 0 to 2 percent. This unit consists of small areas of Bigbee and Bibb soils that are so intermingled that they could not be separated at the scale selected for mapping.

The excessively drained Bigbee soils make up about 45 percent of the unit. These soils occur in the higher positions next to the stream channels. Typically, the surface layer is very dark grayish brown loamy sand about 8 inches thick mottled in shades of brown. The upper part of the underlying material, to a depth of about 38 inches, is yellowish brown loamy sand that has mottles in lighter shades of brown. The lower part, to 60 inches, is pale brown fine sand that becomes white below about 52 inches.

Bigbee soils range from medium acid to very strongly acid throughout. Permeability is rapid. The available water capacity is low. Runoff is slow. The erosion hazard is slight.

The poorly drained Bibb soils make up about 40 percent of the unit. These soils occupy depressions some distance from the stream channel. Typically, the surface layer is very dark grayish brown silt loam about 6 inches thick. The underlying material, to a depth of 60 inches, is dark gray silt loam mottled in shades of brown and lighter gray and stratified with thin layers of loamy sand.

Bibb soils are strongly or very strongly acid throughout. Permeability is moderate. The available

Figure 1.—Slash pine growing on Beauregard silt loam.

water capacity is high. Runoff is very slow. The erosion hazard is slight.

Small areas of Harleston soils and black organic soils derived mainly from highly decomposed leaves, roots, twigs, and partly decomposed woody fragments make up about 15 percent of this unit.

Most areas of these Bigbee and Bibb soils are in woodland. Some areas are used for recreation. Many summer cottages are built on pilings on the higher ground near navigable water. Because of the frequency of flooding, these soils are poorly suited to row crops or pasture.

These soils are well suited to both southern hardwoods and southern pines. Bigbee soils support loblolly, yellow-poplar, and spruce pines. Bibb soils support water oak, sweetgum, loblolly and slash pines, willow oak, and green ash. The invasion of the woody understory by less desirable plants is very rapid. Site preparation for tree planting is good for only one season. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by using special equipment or by logging during the drier seasons.

These soils have severe limitations for urban uses because of flooding and wetness. Wetness and flooding also severely limit the use of these soils for septic tank absorption fields.

These Bigbee and Bibb soils are in capability subclass Vw; Bigbee soils are in woodland suitability group 2s8, and Bibb soils are in woodland suitability group 2w9.

Bo—Bohicket silty clay. This very poorly drained clayey soil is on tidal marshes and is daily flooded by seawater. Slopes range from 0 to 1 percent.

Typically, the surface layer, about 10 inches thick, is very dark brown silty clay mottled in shades of gray. From 10 to 38 inches is very dark gray silty clay mottled in shades of brown. Black silt loam extends to a depth of 62 inches.

This soil is moderately alkaline to slightly acid throughout. Permeability is very slow. The available water capacity is high for salt-tolerant plants. Runoff is very slow, and the erosion hazard is slight.

Included in mapping are small areas of Beaches, Handsboro soils, and Sulfaquepts. Also included are small areas of soil with a silt loam, mucky silt loam, loam, or mucky loam surface layer.

Most areas of this Bohicket soil are used as habitat for waterfowl and marsh animals. They are important as a part of the saltwater estuarine system. This soil becomes extremely acid upon drying. When dry it becomes almost sterile and supports little vegetation. The native vegetation is mostly seashore saltgrass and other salt-tolerant plants. This soil is poorly suited to crops, pasture, or woodland because of daily tidal flooding.

This soil has severe limitations for urban uses because of daily flooding and wetness. Wetness and flooding severely limit this soil for septic tank absorption fields.

This Bohicket soil is in capability subclass VIIIw; no woodland suitability rating is given.

EsA—Escambia loam, 0 to 2 percent slopes. This somewhat poorly drained soil is on low upland ridges.

Typically, the surface layer is loam about 7 inches thick. The upper 4 inches is very dark gray, and the lower 3 inches is dark gray. The subsurface layer is grayish brown loam to a depth of about 14 inches. The upper part of the subsoil, to about 33 inches, is loam mottled in shades of brown and gray. The lower part, to 60 inches, is sandy clay loam that is mottled in shades of brown, red, and gray and contains about 10 to 15 percent plinthite nodules in the 33- to 49-inch layers.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate in the upper part of the subsoil and slow in the lower part. Available water capacity is high. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Atmore, Guyton, Harleston, Poarch, and Saucier soils and a few areas of a soil with less than 5 percent plinthite nodules in any horizon.

Most of this Escambia soil is in woodland. A small acreage is either in urban uses or in pasture. Row crops are not commonly grown. This soil is, however, well suited to corn, soybeans, pasture grasses, and legumes. Seedbed preparation and tillage are sometimes a problem because of seasonal wetness. Management for crops includes returning crop residues to the soil, minimum tillage, row arrangement, and draining by surface field ditches. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by logging during the drier season.

This soil has moderate limitations for urban uses mainly because of wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Escambia soil is in capability subclass IIw and in woodland suitability group 2w8.

EsB—Escambia loam, 2 to 5 percent slopes. This somewhat poorly drained soil is on low upland ridges and side slopes.

Typically, the surface layer is loam about 7 inches thick. The upper 4 inches is very dark gray, and the lower 3 inches is dark gray. The subsurface layer is grayish brown loam to a depth of about 14 inches. The upper part of the subsoil, to about 33 inches, is mottled in shades of brown and gray. The lower part, to 60 inches, is sandy clay loam mottled in shades of brown, red, and gray. It contains about 10 to 15 percent plinthite nodules between depths of 33 and 49 inches.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate in the upper part of

the subsoil and slow in the lower part. Available water capacity is high. Runoff is slow to medium, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Atmore, Guyton, Harleston, Poarch, and Saucier soils and a few areas of a soil that is less than 5 percent plinthite nodules in any horizon.

Most of this Escambia soil is in woodland. A small acreage is either in urban areas or in pasture. Row crops are not commonly grown. This soil is, however, well suited to corn, soybeans, pasture grasses, and legumes. Seedbed preparation and tillage are sometimes a problem because of seasonal wetness. Management includes returning crop residues to the soil, minimum tillage, contour farming or terracing, and using vegetated waterways. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by logging during the drier seasons.

This soil has moderate limitations for urban uses mainly because of wetness. Wetness also severely limits the use of the soil for septic tank absorption fields.

This Escambia soil is in capability subclass IIe and in woodland suitability group 2w8.

EuB—Eustis loamy fine sand, 2 to 5 percent slopes. This somewhat excessively drained soil is on ridgetops.

Typically, the surface layer is very dark grayish brown loamy fine sand about 6 inches thick. It is underlain by a subsurface layer of dark brown and yellowish brown loamy sand to a depth of about 26 inches. The subsoil extends to a depth of 68 inches. The upper part of the subsoil, to about 51 inches, is yellowish red loamy sand. The lower part is yellowish red loamy sand mottled with reddish yellow. The underlying material, to a depth of 73 inches, is loamy sand mottled in shades of yellow, brown, and red. Below this is strong brown sand.

This soil is strongly or very strongly acid throughout. Permeability is rapid. The available water capacity is low. There is little or no runoff, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Harleston, and Poarch soils.

Over half of this Eustis soil is used for woodland. The remainder is in urban development or pasture or is idle. This soil is suited to row crops, small grains, and pasture grasses and legumes. When crops are grown, management includes returning crop residues to the soil. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is suited to slash, longleaf, and loblolly pine trees.

This soil has slight limitations for urban uses. The limitation of this soil for septic tank absorption fields is slight.

This Eustis soil is in capability subclass IIIs and in woodland suitability group 3s3.

Gu—Guyton silt loam. This poorly drained soil is on wet flats and in drainageways. Slopes range from 0 to 1 percent.

Typically, the surface layer is very dark gray silt loam about 4 inches thick. The subsurface layer is light brownish gray silt loam that has brownish mottles to a depth of about 17 inches. The subsoil extends to a depth of about 63 inches. The upper part of the subsoil, to about 31 inches, is gray silt loam that has brownish mottles. The lower part is light brownish gray silty clay loam that has gray and brownish mottles.

This soil is strongly or very strongly acid in the surface layer and upper part of the subsoil and is medium acid or strongly acid in the lower part of the subsoil. Permeability is slow. Available water capacity is high. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Saucier, and Smithton soils.

Most of this Guyton soil is in woodland. A small acreage is in pasture. Row crops are not commonly grown. This soil is suited to most commonly grown crops, pasture grasses, and legumes. Seedbed preparation and tillage are usually delayed because of wetness. Management for crops includes returning crop residues to the soil, minimum tillage, row arrangement, and surface field ditches. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly and slash pines, sweetgum, green ash, southern red oak, and water oak. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by using special equipment or by logging during the drier seasons.

This soil has severe limitations for urban uses because of wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Guyton soil is in capability subclass IIIw and in woodland suitability group 2w9.

HA—Handsboro association. This map unit consists of very poorly drained, well decomposed organic soils on tidal marshes that are flooded daily by seawater. Slopes range from 0 to 1 percent. Areas range from about 200 to over 1,000 acres. The composition of this unit varies from one map area to another, but mapping has been controlled well enough for the expected use of the soils.

About 70 percent of the map unit is Handsboro soils. Typically, the surface layer is very dark gray mucky silt loam about 2 inches thick. The 2- to 14-inch layer is well decomposed very dark grayish brown organic material. The 14- to 30-inch layer is well decomposed very dark gray organic material. The underlying layer, to a depth of about 61 inches, consists of well decomposed black, very dark grayish brown, or very dark gray organic material stratified with dark grayish brown loam.

These soils range from moderately alkaline to neutral throughout. Permeability is moderate. The available water capacity is high for salt-tolerant plants. Runoff is very slow, and the erosion hazard is slight.

Included in mapping are small areas of Bohicket soils, small and narrow areas along rivers that are dominantly stratified mineral soils, small areas of organic soils without strata of mineral material, and small areas of organic soils that are less than 51 inches thick over mineral material. These included soils make up about 30 percent of this map unit.

Most areas of these Handsboro soils are used as habitat for waterfowl, fish, and marsh animals. These soils are important as a part of the saltwater estuarine system and have high potential for this use. These soils become extremely acid upon drying, and sulfidic material runs as high as 2 percent in the profile. When dry they become almost sterile and support no vegetation. The native vegetation is mostly black needlerush, cordgrass, and other salt-tolerant plants. These soils are poorly suited to crops, pasture, and woodland because of daily tidal flooding.

These soils have severe limitations for urban uses because of daily flooding and wetness. Wetness and flooding severely limit their use for septic tank absorption fields.

These Handsboro soils are in capability subclass VIIIw; no woodland suitability rating is given.

HIA—Harleston fine sandy loam, 0 to 2 percent slopes. This moderately well drained soil is on stream terraces and low upland ridges.

Typically, the surface layer is very dark gray fine sandy loam about 4 inches thick. The subsurface layer is light olive brown fine sandy loam to a depth of about 8 inches. The upper part of the subsoil is light olive brown sandy loam and, from 21 to 30 inches, yellowish brown loam that has brown, red, and gray mottles. The lower part, to 60 inches, is sandy clay loam mottled in shades of brown, red, and gray.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate, and available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Poarch, Saucier, and Smithton soils. Also included are small areas that have a loamy sand surface layer and small areas of well drained soils that have a yellowish brown sandy loam subsoil and white sand within a depth of 60 inches.

Most of this Harleston soil is in woodland or pasture. A small acreage is cultivated. This soil is well suited to corn, soybeans, pasture grasses, and legumes. Runoff from nearby soils at higher elevations collects in this soil during and immediately after prolonged rainfall. Seedbed preparation and tillage are sometimes a problem because of seasonal wetness. Management for crops includes returning crop residues to the soil, minimum tillage, row arrangement, and using open ditches. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by logging during the drier season.

This soil has moderate limitations for urban uses mainly because of wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Harleston soil is in capability subclass IIw and in woodland suitability group 2w8.

HIB—Harleston fine sandy loam, 2 to 5 percent slopes. This moderately well drained soil is on low upland ridges and side slopes.

Typically, the surface layer is very dark gray fine sandy loam about 4 inches thick. The subsurface layer is light olive brown fine sandy loam to a depth of about 8 inches. The upper part of the subsoil, to about 30 inches, is light olive brown sandy loam and yellowish brown loam that has brown, red, and gray mottles below 21 inches. The lower part, to a depth of 60 inches, is sandy clay loam mottled in shades of brown, red, and gray.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate, and available water capacity is medium. Runoff is slow to medium, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Poarch, Saucier, and Smithton soils. Also included are small areas that have a loamy sand surface layer and small areas of well drained soils that have a yellowish brown sandy loam subsoil and white sand within a depth of 60 inches.

Most of this Harleston soil is in woodland or pasture. A small acreage is cultivated. This soil is well suited to corn, soybeans, pasture grasses, and legumes. Seedbed preparation and tillage may be a slight problem because of seasonal wetness. Management for crops includes returning crop residues to the soil, crop rotation, minimum tillage, contour farming or terracing, and vegetating waterways. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and in harvesting the tree crop, but this can be partly overcome by logging during the drier seasons.

This soil has moderate limitations for urban uses mainly because of wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Harleston soil is in capability subclass IIe and in woodland suitability group 2w8.

LuA—Lucedale fine sandy loam, 0 to 2 percent slopes. This well drained soil is on broad upland ridges.

Typically, the surface layer is dark brown fine sandy loam about 6 inches thick. The subsoil, to a depth of 64 inches, is dark red sandy clay loam.

The surface layer ranges from slightly acid to strongly acid. The subsoil is strongly acid or very strongly acid. Permeability is moderate, and available water capacity is medium to high. Runoff is slow. The erosion hazard is slight.

Included in mapping are small areas of McLaurin, Poarch, and Smithdale soils.

Most of this Lucedale soil is in woodland or pasture. A small acreage is used for row crops. This soil is well suited to row crops, small grains, truck crops, pasture grasses (fig. 2), and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

For urban uses, the soil limitations are slight. The limitations of this soil for septic tank absorption fields are also slight.

This Lucedale soil is in capability class I and in woodland suitability group 2o1.

MaA—Malbis fine sandy loam, 0 to 2 percent slopes. This moderately well drained soil is on broad upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer is yellowish brown fine sandy loam to a depth of about 7 inches. The upper part of the subsoil, to about 20 inches, is yellowish brown sandy clay loam. The lower part, to a depth of 60 inches, is strong brown sandy clay loam that has mottles in shades of gray and brown. It contains about 6 to 8 percent plinthite nodules below about 32 inches.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. Available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of McLaurin, Poarch, and Saucier soils.

Most of this Malbis soil is in woodland. A small acreage is in pasture or row crops. This soil is well suited to corn, soybeans, pasture grasses, and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

Figure 2.—Pecan trees and bahiagrass pasture on Lucedale fine sandy loam, 0 to 2 percent slopes.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses mainly because of wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Malbis soil is in capability class I and in woodland suitability group 2o1.

MaB—Malbis fine sandy loam, 2 to 5 percent slopes. This moderately well drained soil is on upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer is yellowish brown fine sandy loam to a depth of about 7 inches. The upper part of the subsoil, to about 20 inches, is yellowish brown sandy clay loam. The lower part, to 60 inches, is strong brown sandy clay loam that has mottles in shades of gray and brown and contains about 6 to 8 percent plinthite nodules below about 32 inches.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. Available water capacity is medium. Runoff is slow to medium, and the erosion hazard is moderate.

Included with this soil in mapping are small areas of McLaurin, Poarch, and Saucier soils.

Most of this Malbis soil is in woodland. A small acreage is in pasture (fig. 3) or row crops. This soil is well suited to corn, soybeans, pasture grasses, and legumes. Management for crops includes returning crop residues to the soil, crop rotation, contour farming, terracing, or minimum tillage. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses mainly because of wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Malbis soil is in capability subclass IIe and in woodland suitability group 2o1.

MaC—Malbis fine sandy loam, 5 to 8 percent slopes. This moderately well drained soil is on side slopes.

Figure 3.—Cattle grazing white clover growing on Malbis fine sandy loam, 2 to 5 percent slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer is yellowish brown fine sandy loam to a depth of about 7 inches. The upper part of the subsoil, to about 20 inches, is yellowish brown sandy clay loam. The lower part, to 60 inches, is strong brown sandy clay loam that has mottles in shades of gray and brown. It contains about 6 to 8 percent plinthite nodules below about 32 inches.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. Available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included with this soil in mapping are small areas of McLaurin, Poarch, and Saucier soils.

Most of this Malbis soil is in woodland. A small acreage is in pasture.

This soil is suited to corn, soybeans, pasture grasses, and legumes because of slopes. Management for crops includes returning crop residues to the soil, crop rotation, minimum tillage, contour farming, terracing, contour stripcropping, and vegetating waterways. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses mainly because of wetness or slope. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Malbis soil is in capability subclass IIIe and in woodland suitability group 2o1.

McB—McLaurin fine sandy loam, 2 to 5 percent slopes. This well drained soil is on upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 16 inches, is brown and strong brown sandy loam. The upper part of the subsoil, to about 34 inches, is yellowish red sandy loam. The next layer, to about 48 inches, is yellowish red loamy sand that has yellowish mottles. The lower part, to 75 inches, is red sandy loam.

This soil is strongly acid or very strongly acid throughout. The permeability is moderate. The available water capacity is medium. Runoff is slow to medium, and the erosion hazard is slight.

Included in mapping are small areas of Eustis, Ruston, and Smithdale soils. A few small areas have a loamy sand surface layer.

Most of this McLaurin soil is used for woodland or pasture. The remainder is in row crops. This soil is well suited to row crops, small grains, truck crops, and pasture grasses and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

For urban uses the limitations are also slight. The limitations of this soil for septic tank absorption fields are slight.

This McLaurin soil is in capability subclass IIe and in woodland suitability group 2o1.

McC—McLaurin fine sandy loam, 5 to 8 percent slopes. This well drained soil is on upland ridges and side slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 16 inches, is brown and strong brown sandy loam. The subsoil extends to a depth of 75 inches or more. To about 34 inches, it is yellowish red sandy loam. To about 48 inches, it is yellowish red loamy sand that has yellowish mottles. Below that, it is red sandy loam.

This soil is strongly acid or very strongly acid throughout. The permeability is moderate. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included with this soil in mapping are small areas of Eustis, Poarch, and Ruston soils. A few small areas have a loamy sand surface layer.

Most areas of this McLaurin soil are in woodland. The remainder is used for pasture or row crops. This soil is suited to row crops, small grains, truck crops, pasture grasses, and legumes. When crops are grown, management includes returning crop residues to the soil, row arrangement, terracing, and rotating crops with grasses and legumes. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses because of slope. The limitations of this soil for septic tank absorption fields are slight.

This McLaurin soil is in capability subclass IIIe and in woodland suitability group 2o1.

Oc—Ocilla loamy sand. This somewhat poorly drained soil is on broad flats. Slopes range from 0 to 2 percent.

Typically, the surface layer is dark gray loamy sand about 8 inches thick. The subsurface layer, to a depth of about 32 inches, is dark grayish brown loamy sand mottled in shades of gray. The subsoil extends to a depth of 60 inches or more. To about 42 inches, it is yellowish brown sandy loam mottled in shades of brown. To about 50 inches, it is sandy loam mottled in shades of brown, red, and gray. Below that, it is yellowish brown sandy loam mottled in shades of gray and brown.

This soil is strongly or very strongly acid throughout. Permeability is moderately rapid in the surface layer and moderate in the subsoil. The available water capacity is low. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of Atmore, Eustis, Harleston, and Plummer soils.

Over half of this Ocilla soil is used for woodland. The remainder is used for urban areas, pasture, or is idle. This soil is suited to row crops, small grains, truck crops, pasture grasses, and legumes. When crops are grown, management includes row arrangement and using open ditches to remove excess water. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is suited to loblolly, longleaf, and slash pine trees. Wetness is the main limitation in woodland management. This can be partly overcome by logging during dry seasons.

This soil has severe limitations for urban uses because of wetness. Wetness severely limits the use of this soil for septic tank absorption fields.

This Ocilla soil is in capability subclass IIIw and in woodland suitability group 3w2.

Pa—Pits. This map unit consists of gravel pits, sand pits, and borrow pits. Areas range from 2 to 125 acres.

Gravel pits are open excavations from which gravel has been mined. The largest are on the terraces and the flood plain of the Pearl River. These and other gravel pits along the rivers consist mainly of sandy tailings from hydraulic dredging operations and water areas. Other smaller pits are the result of mechanical excavation.

Sand pits are areas from which only sand has been removed. Borrow pits are areas from which soil and the underlying material have been removed for use in construction of roads and as fill in other areas.

Pits require major reclamation before they can be used for crops or pasture. Pine trees can be planted to protect the soil against erosion, but they grow slowly because of low fertility in the exposed substratum.

No capability rating or woodland suitability rating given.

Pe—Plummer loamy sand. This poorly drained, wet soil is on flats and in drainageways. Slopes range from 0 to 2 percent.

Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer, to a depth of about 41 inches, is gray loamy sand that has brownish mottles. The subsoil, to 60 inches, is gray sandy loam mottled in shades of brown and red.

This soil is strongly acid or very strongly acid throughout. Permeability is moderately rapid in the upper part and moderate in the subsoil. The available water capacity is low. Runoff is slow, and the erosion hazard is slight. This soil is subject to rare flooding.

Included with this soil in mapping are small areas of Atmore, Harleston, Ocilla, and Smithton soils.

Most of this Plummer soil is in woodland. A small acreage is in urban development or is used for pasture. This soil is poorly suited to row crops because of wetness, but is suited to grasses and legumes. Seedbed preparation and tillage are usually delayed because of wetness. Management for crops includes minimum tillage, return of crop residues to the soil, row arrangement, and draining open ditches. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines. Wetness is the main limitation in woodland management and in harvesting the tree crop, but this can be partly overcome by using special equipment and by logging during the drier seasons.

The soil has severe limitations for urban uses, mainly wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Plummer soil is in capability subclass IVw and in woodland suitability group 2w3.

PoA—Poarch fine sandy loam, 0 to 2 percent slopes. This well drained soil is on broad upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 60 inches or more. The upper part, to a depth of about 51 inches, is yellowish brown fine sandy loam that is mottled in shades of brown and red below about 35 inches. The lower part is fine sandy loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules.

This soil is strongly or very strongly acid throughout. The permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Eustis, and Harleston soils.

Over half of this Poarch soil is used for woodland. The remainder is in urban areas or is used for row crops. This soil is well suited to row crops, small grains, truck crops, pasture grasses, and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

For urban uses the soil limitations are moderate because of wetness. Moderately slow permeability and wetness limit the use of this soil for septic tank absorption fields.

This Poarch soil is in capability class I and in woodland suitability group 2o1.

PoB—Poarch fine sandy loam, 2 to 5 percent slopes. This well drained soil is on upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsoil extends to

a depth of 60 inches or more. The upper part, to a depth of about 51 inches, is yellowish brown fine sandy loam that is mottled in shades of brown and red below about 35 inches. The lower part is fine sandy loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules.

This soil is strongly or very strongly acid throughout. The permeability is moderate in the upper part of the subsoil and moderately slow in the lower subsoil. The available water capacity is medium. Runoff is slow to medium, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Eustis, Harleston, and Saucier soils.

Over half of this Poarch soil is used for woodland. The remainder is used for pasture or row crops. This soil is well suited to row crops, small grains, truck crops, pasture grasses, and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

For urban uses the limitations are moderate because of wetness. Moderately slow permeability and wetness limit the use of this soil for septic tank absorption fields.

This Poarch soil is in capability subclass IIe and in woodland suitability group 2o1.

PoC—Poarch fine sandy loam, 5 to 8 percent slopes. This well drained soil is on upland side slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 60 inches or more. The upper part, to a depth of about 51 inches, is yellowish brown fine sandy loam that is mottled in shades of brown and red below about 35 inches. The lower part is fine sandy loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules.

This soil is strongly or very strongly acid throughout. The permeability is moderate in the upper part of the subsoil but is moderately slow in the lower part. The available water capacity is medium. Runoff is medium. The erosion hazard is moderate.

Included with this soil in mapping are small areas of Escambia, Harleston, and Smithton soils.

Most areas of this Poarch soil are in woodland. The remainder is used for pasture or building sites. This soil is suited to row crops, small grains, and truck crops and is well suited to pasture grasses and legumes. When crops are grown, management includes returning crop residues to the soil, row arrangement, terracing, and rotating crops with grasses and legumes. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses because of slope and wetness. Moderately slow permeability and wetness limit the use of this soil for septic tank absorption fields.

This Poarch soil is in capability subclass IIIe and in woodland suitability group 2o1.

PoD—Poarch fine sandy loam, 8 to 12 percent slopes. This well drained soil is on upland side slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 60 inches or more. The upper part, to a depth of about 51 inches, is yellowish brown fine sandy loam that is mottled in shades of brown and red below about 35 inches. The lower part is fine sandy loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules.

This soil is strongly or very strongly acid throughout. The permeability is moderate in the upper part of the subsoil but moderately slow in the lower part. The available water capacity is medium. Runoff is rapid, and the erosion hazard is severe.

Included with this soil in mapping are small areas of Eustis, Saucier, and Smithton soils.

Most areas of this Poarch soil are in woodland. The rest are pasture or used as building sites. This soil is poorly suited to row crops and small grains because of steep slopes, but it is suited to pasture grasses. When crops are grown, management includes returning crop residues to the soil, row arrangement, terracing, and rotating crops with grasses and legumes. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses because of slope and wetness. Moderately slow permeability, wetness, and slope limit the use of this soil for septic tank absorption fields.

This Poarch soil is in capability subclass IVe and in woodland suitability group 2o1.

RuA—Ruston fine sandy loam, 0 to 2 percent slopes. This well drained soil is on ridgetops.

Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer is dark brown fine sandy loam to a depth of about 11 inches. The subsoil extends to a depth of 84 inches or more. To about 57 inches it is red sandy clay loam. To about 67 inches it is red sandy loam that has light yellowish brown mottles. Below that it is red sandy clay loam that has brownish yellow mottles.

The surface layer ranges from slightly acid to strongly acid. The subsoil ranges from medium acid to very strongly acid. Permeability is moderate. Available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of McLaurin and Poarch soils.

Most of this Ruston soil is in woodland or pasture (fig. 4). A small acreage is in row crops. This soil is well suited to corn, soybeans, pasture grasses, and legumes. Management for crops includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has slight limitations for urban uses. The limitations of this soil for use as septic tank absorption fields are slight.

This Ruston soil is in capability class I and in woodland suitability group 2o1.

RuB—Ruston fine sandy loam, 2 to 5 percent slopes. This well drained soil is on ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer is dark brown fine sandy loam to a depth of about 11 inches. The subsoil extends to a depth of 84 inches or more. To about 57 inches it is red sandy clay loam. To about 67 inches it is red sandy loam that has light yellowish brown mottles. Below that it is red sandy clay loam that has brownish yellow mottles.

The surface layer ranges from slightly acid to strongly acid. The subsoil ranges from medium acid to very strongly acid. Permeability is moderate. Available water capacity is medium. Runoff is slow to medium, and the erosion hazard is moderate.

Included with this soil in mapping are small areas of McLaurin and Poarch soils.

Most of this Ruston soil is in woodland or pasture. A small acreage is in row crops. This soil is well suited to corn, soybeans, pasture grasses, and legumes. Management for crops includes returning crop residues to the soil, crop rotation, contour farming, terracing, or minimum tillage. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has slight limitations for urban uses. The limitations of this soil for use as septic tank absorption fields are also slight.

This Ruston soil is in capability subclass IIe and in woodland suitability group 2o1.

Figure 4.—Sheep grazing white clover growing on Ruston fine sandy loam, 0 to 2 percent slopes.

RuC—Ruston fine sandy loam, 5 to 8 percent slopes. This well drained soil is on ridgetops and side slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer is dark brown fine sandy loam to a depth of about 11 inches. The subsoil extends to a depth of 84 inches or more. To about 57 inches it is red sandy clay loam. To about 67 inches it is red sandy loam that has light yellowish brown mottles. Below that it is red sandy clay loam that has brownish yellow mottles.

The surface layer ranges from slightly acid to strongly acid. The subsoil ranges from medium acid to very strongly acid. Permeability is moderate. Available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included with this soil in mapping are small areas of McLaurin and Poarch soils.

Most of this Ruston soil is in woodland. A small acreage is in pasture or row crops. This soil is suited to corn and soybeans and well suited to pasture grasses and legumes. Management for crops includes returning crop residues to the soil, crop rotation, minimum tillage, contour farming, terraces, contour stripcropping, and vegetated waterways. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The woodland management limitations are slight.

This soil has moderate limitations for urban uses because of slope. The limitations of this soil for use as septic tank absorption fields are slight.

This Ruston soil is in capability subclass IIIe and in woodland suitability group 2o1.

SaA—Saucier fine sandy loam, 0 to 2 percent slopes. This moderately well drained soil is on upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 9 inches, is pale brown fine sandy loam. The subsoil extends to a depth of 60 inches or more. To about 26 inches it is yellowish brown loam that becomes mottled in shades of brown, gray, and red with increasing depth. To 40 inches it is loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules. To 47 inches it is yellowish brown clay loam that has mottles in shades of gray, brown, and red. Below that it is mottled clay.

The soil is strongly acid or very strongly acid throughout. Permeability of the upper part of the subsoil is moderate, and permeability of the lower part of the subsoil is slow. The available water capactiy is high. Runoff is slow, and the erosion hazard is slight.

Included with this Saucier soil in mapping are small areas of Escambia, Harleston, and Poarch soils.

Over half of this soil is used for woodland. The rest is used for pasture, truck crops, row crops, or urban

Figure 5.—Ryegrass for winter grazing, Slash and longleaf pines in the background, on Saucier fine sandy loam, 0 to 2 percent slopes.

development. This soil is well suited to row crops, small grains, truck crops, pasture grasses, and legumes (fig. 5). When crops are grown, management includes returning crop residues to the soil, row arrangement, and using open ditches to remove excess water. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and harvesting the tree crop, but this can be partly overcome by logging during the drier season.

This soil has moderate limitations for urban uses because of wetness. Wetness severely limits the use of this soil for septic tank absorption fields.

This Saucier soil is in capability subclass IIw and in woodland suitability group 2w8.

SaB—Saucier fine sandy loam, 2 to 5 percent slopes. This moderately well drained soil is on upland ridges.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 9 inches, is pale brown fine sandy loam. The subsoil extends to a depth of 60 inches or more. To about 26 inches it is yellowish brown loam that becomes mottled in shades of brown, gray, and red. To 40 inches it is loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules. To 47 inches it is yellowish brown clay loam that has mottles in shades of gray, brown, and red. The lower part of the subsoil is mottled clay.

This soil is strongly acid or very strongly acid throughout. Permeability of the upper part of the subsoil is moderate, and permeability of the lower part is slow. The available water capacity is high. Runoff is slow to medium, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Escambia, Harleston, and Poarch soils.

Over half of this Saucier soil is used for woodland. The rest is used for pasture, truck crops, row crops, or urban development. This soil is well suited to row crops, small grains, truck crops, pasture grasses, and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and harvesting the tree crop, but this can be partly overcome by logging during the drier season.

This soil has moderate limitations for urban uses because of wetness. Wetness severely limits the use of this soil for septic tank absorption fields.

This Saucier soil is in capability subclass IIe and in woodland suitability group 2w8.

SaC—Saucier fine sandy loam, 5 to 8 percent slopes. This moderately well drained soil is on upland ridges and side slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 9 inches, is pale brown fine sandy loam. The subsoil extends to a depth of 60 inches or more. To about 26 inches it is yellowish brown loam that becomes mottled in shades of brown, gray, and red with increasing depth. To 40 inches it is loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules. To 47 inches it is yellowish brown clay loam that has mottles in shades of gray, brown, and red. The lower part of the subsoil is mottled clay.

This soil is strongly acid or very strongly acid throughout. Permeability of the upper part of the subsoil is moderate, and permeability of the lower part is slow. The available water capacity is high. Runoff is medium, and the erosion hazard is moderate.

Included with this soil in mapping are small areas of Harleston, Poarch, and Smithton soils.

Most of this Saucier soil is in woodland. The rest is used for pasture or building sites. This soil is suited to row crops, small grains, truck crops, pasture grasses, and legumes. When crops are grown, management includes returning crop residues to the soil, row arrangement, terracing, and rotating crops with grasses and legumes. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and harvesting tree crops, but this can be partly overcome by logging during the drier season.

This soil has moderate limitations for urban uses because of slope. Wetness severely limits the use of this soil for septic tank absorption fields.

This Saucier soil is in capability subclass IIIe and in woodland suitability group 2w8.

SaD—Saucier fine sandy loam, 8 to 12 percent slopes. This moderately well drained soil is on upland side slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 9 inches, is pale brown fine sandy loam. The subsoil extends to a depth of 60 inches or more. To about 26 inches it is yellowish brown loam that becomes mottled in shades of brown, gray, and red with increasing depth. To 40 inches it is loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules. To 47 inches it is yellowish brown clay loam mottled in shades of gray, brown, and red. Below that it is mottled clay.

This soil is strongly acid or very strongly acid throughout. Permeability of the upper part of the subsoil is moderate, and permeability of the lower part is slow. The available water capacity is high. Runoff is rapid, and the erosion hazard is severe.

Included with this soil in mapping are small areas of Harleston, Malbis, Poarch, and Smithton soils.

Most areas of this Saucier soil are in woodland. The rest are used for pasture or building sites. This soil is poorly suited to row crops, small grains, and truck crops and is suited to pasture grasses and legumes. When crops are grown, management includes returning crop residues to the soil, row arrangement, terracing, and rotating crops with grasses and legumes. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation in managing and harvesting the tree crop. This can be partly overcome by logging during the drier seasons.

This soil has moderate limitations for urban uses because of slope. Wetness severely limits the use of this soil for septic tank absorption fields.

This Saucier soil is in capability subclass IVe and in woodland suitability group 2w8.

ScB—Saucier-Susquehanna complex, 2 to 5 percent slopes. This map unit consists of moderately well drained and somewhat poorly drained soils on upland ridges and side slopes. The moderately well drained Saucier soils are on the broad, flat portions of the ridges. The somewhat poorly drained Susquehanna soils usually occur near the edge of the ridges and near slope breaks. The landscape is chiefly pine forests.

The delineations of this map unit are comparable in size to those of map units that contain only one soil. They consist of small areas of Saucier and Susquehanna soils so intermingled that mapping them separately was not practical at the scale selected.

About 50 percent of the map unit is Saucier soils. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 9 inches, is pale brown fine sandy loam. The subsoil extends to a depth of 60 inches or more. To about 26 inches it is yellowish brown loam that becomes mottled in shades of brown, gray, and red with increasing depth. To 40 inches it is loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules. To 47 inches it is yellowish brown clay loam mottled in shades of brown, gray, and red. Below that it is mottled clay.

Saucier soils are strongly acid or very strongly acid throughout. Permeability of the upper part of the subsoil is moderate, and permeability of the lower part is slow. The available water capacity is high. Runoff is slow to medium, and the erosion hazard is slight.

About 35 percent of the map unit is Susquehanna soils. Typically, the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer, to a depth of about 7 inches, is yellowish brown fine sandy loam mottled in shades of red and brown. The subsoil extends to a depth of 60 inches or more. To about 11 inches it is red clay loam mottled in shades of gray and brown. To 42 inches it is clay mottled in shades of red, gray, and brown. Below that it is light gray clay mottled in shades of red, brown, and olive.

Susquehanna soils are strongly acid or very strongly acid throughout. Permeability is very slow. The available water capacity is high. Runoff is slow to medium, and the erosion hazard is moderate.

Small areas of Harleston, Malbis, Poarch, and Smithton soils make up about 15 percent of this unit.

Most areas of these Saucier and Susquehanna soils are in woodland. The rest are in pasture or row crops. These soils are poorly suited to row crops, small grains, and truck crops but are well suited to pasture grasses and legumes. When crops are grown, management includes returning crop residues to the soil and row arrangement. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

Saucier soils are well suited to loblolly, longleaf, and slash pines and sweetgum. Susquehanna soils are suited to pine trees. Wetness is the main limitation of these soils in managing and harvesting the tree crop. This can be partly overcome by logging during the drier seasons.

Saucier soils have moderate limitations for urban uses and Susquehanna soils have severe limitations because they are wet and shallow to clay that has a high shrink-swell. Wetness and slow permeability severely limit the use of these soils for septic tank absorption fields.

These Saucier and Susquehanna soils are in capability subclass IVe; Saucier soils are in woodland suitability group 2w8, and Susquehanna soils are in woodland suitability group 3c2.

ScD—Saucier-Susquehanna complex, 5 to 12 percent slopes. This map unit consists of moderately well drained and somewhat poorly drained soils on upland side slopes and narrow ridges. The moderately well drained Saucier soils are on upper ridges and lower side slopes. The somewhat poorly drained Susquehanna soils usually are on slope breaks and on middle slopes. The landscape is chiefly pine forests.

The delineations of this map unit are comparable in size to those of map units that contain only one soil. They consist of small areas of Saucier and Susquehanna soils so intermingled that mapping them separately was not practical at the scale selected.

About 45 percent of the map unit is Saucier soils. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 9 inches, is pale brown fine sandy loam. The subsoil extends to a depth of 60 inches or

more. To about 26 inches it is yellowish brown loam that becomes mottled in shades of brown, gray, and red. To 40 inches it is loam that is mottled in shades of brown, gray, and red and contains about 6 percent plinthite nodules. To 47 inches it is yellowish brown clay loam mottled in shades of gray, brown, and red. Below that it is mottled clay.

Saucier soils are strongly acid or very strongly acid throughout the profile. Permeability of the upper part of the subsoil is moderate, and permeability of the lower part is slow. The available water capacity is high. Runoff is medium to rapid. The erosion hazard is severe.

About 30 percent of the map unit is Susquehanna soils. Typically, the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer, to a depth of about 7 inches, is yellowish brown fine sandy loam mottled in shades of red and brown. The subsoil extends to a depth of 60 inches or more. To about 11 inches it is red clay loam mottled in shades of gray and brown. To 42 inches it is clay mottled in shades of red, gray, and brown. Below that it is light gray clay mottled in shades of red, brown, and olive.

Susquehanna soils are strongly acid or very strongly acid throughout. Permeability is very slow. The available water capacity is high. Runoff is medium to rapid. The erosion hazard is severe.

Small areas of Escambia, Poarch, Ruston, and Smithton soils make up about 25 percent of this unit.

These Saucier and Susquehanna soils are used primarily for woodland. Because of the steepness of the slopes and the numerous short drains, these soils are poorly suited to row crops but are suited to pasture grasses and legumes. Erosion can be controlled with perennial vegetation of grasses and legumes or trees. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

Saucier soils are well suited to loblolly, longleaf, and slash pines and sweetgum, and Susquehanna soils are suited to pine trees. Drainageways on the toe of the lower slopes support slash and loblolly pines, red oak, sweetgum, and tupelos. Wetness is the main limitation of these soils in managing and harvesting the tree crop. This can be partly overcome by logging during the drier seasons.

These soils have severe limitations for urban uses because of wetness, shallow depth to clay that has a high shrink-swell, and the steepness of slopes. Wetness and slow permeability severely limit the use of these soils for septic tank absorption fields.

These Saucier and Susquehanna soils are in capability subclass VIe; Saucier soils are in woodland suitability group 2w8, and Susquehanna soils are in woodland suitability group 3c2.

SmD—Smithdale fine sandy loam, 8 to 12 percent slopes. This well drained soil is on upland side slopes.

Typically, the surface layer is dark brown fine sandy loam about 7 inches thick. The subsurface layer is yellowish brown fine sandy loam to a depth of about 12 inches. The upper part of the subsoil, to about 46 inches, is red and yellowish red sandy clay loam. The lower part of the subsoil, to 80 inches, is red sandy loam mottled in shades of red and yellow.

This soil is strongly acid or very strongly acid throughout. Permeability is moderate in the upper part of the subsoil and moderately rapid in the lower part. The available water capacity is medium. Runoff is rapid, and the erosion hazard is severe.

Included with this soil in mapping are small areas of McLaurin, Poarch, and Ruston soils.

Most of this Smithdale soil is in woodland. A small acreage is in pasture or idle. This soil is poorly suited to row crops but is suited to pasture grasses and legumes. When it is used for row crops, management includes returning crop residues to the soil and using minimum tillage, crop rotation, terraces, and vegetated waterways. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly, longleaf, and slash pines and white oak. The limitations for woodland uses are slight.

This soil has moderate limitations for urban uses—mainly slope. Slope also is a moderate limitation for the use of this soil as septic tank absorption fields.

This Smithdale soil is in capability subclass IVe and in woodland suitability group 2o1.

SmE—Smithdale fine sandy loam, 12 to 17 percent slopes. This well drained soil is on upland side slopes.

Typically, the surface layer is dark brown fine sandy loam about 7 inches thick. The subsurface layer is yellowish brown fine sandy loam to a depth of about 12 inches. The upper part of the subsoil, to about 46 inches, is red and yellowish red sandy clay loam. The lower part, to 80 inches, is red sandy loam mottled in shades of red and yellow.

This soil is strongly acid or very strongly acid throughout. The permeability is moderate in the upper part of the subsoil and moderately rapid in the lower part. The available water capacity is medium. Runoff is rapid, and the erosion hazard is severe.

Included with this soil in mapping are small areas of McLaurin, Poarch, and Ruston soils. A few small areas have a loamy sand surface layer about 25 inches thick.

Most of this Smithdale soil is in woodland. A small acreage is in pasture or is idle. This soil is poorly suited to row crops because of the steepness of slopes, but it is suited to pasture grasses and legumes. Good management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to longleaf, loblolly, and slash pines and white oak. The limitations for woodland uses are slight.

This soil has severe limitations for urban uses—mainly slope. Slope also severely limits the use of this soil for septic tank absorption fields.

This Smithdale soil is in capability subclass VIe and in woodland suitability group 2o1.

St—Smithton fine sandy loam, occasionally flooded. This poorly drained soil is on flood plains, broad wet flats, drainageways, and stream terraces. Slopes range from 0 to 2 percent.

Typically, the surface layer is very dark grayish brown fine sandy loam about 2 inches thick. The subsurface layer is grayish brown fine sandy loam to a depth of about 8 inches. The upper part of the subsoil, to about 49 inches, is light brownish gray fine sandy loam that has brown mottles. The lower part, to 60 inches, is gray fine sandy loam that has brown mottles.

This soil is strongly acid or very strongly acid throughout. Permeability is moderately slow. Available water capacity is medium, and runoff is slow. The erosion hazard is slight. This soil is subject to occasional flooding.

Included with this soil in mapping are small areas of Atmore, Harleston, Guyton, and Plummer soils.

Most of this Smithton soil is in woodland. A small acreage is in pasture or is idle. This soil is poorly suited to row crops, small grains, and truck crops, but it is suited to grasses and legumes. Management for crops includes returning crop residues to the soil, row arrangement, and using open ditches to remove excess water. Seedbed preparation and tillage are usually delayed because of wetness. Management for pasture includes proper stocking, controlled grazing, and controlling weeds and brush.

This soil is well suited to loblolly and slash pine, sweetgum, cherrybark oak, and water oak. Planting of pines (fig. 6) and sweetgum is recommended only in areas that have surface drainage or where it can be provided. Wetness is the main limitation in managing and harvesting the tree crop, but this can be partly overcome by using special equipment or by logging during the drier seasons.

This soil has severe limitations for urban uses—mainly wetness. Wetness also severely limits the use of this soil for septic tank absorption fields.

This Smithton soil is in capability subclass IVw and in woodland suitability group 2w9.

Su—Smithton fine sandy loam, frequently flooded. This poorly drained soil is on densely forested wet flats, in drainageways, and on stream terraces that are subject to stream overflow and are covered by standing water for long periods. Slopes range from 0 to 2 percent. These areas are along minor streams and intermittent

Figure 6.—Smithton fine sandy loam, occasionally flooded, clear cut and bedded before being planted to slash pine trees.

drainageways in many parts of the county. Areas range from about 10 to over 100 acres.

Typically, the surface layer is very dark grayish brown fine sandy loam about 2 inches thick. The subsurface layer is grayish brown fine sandy loam to a depth of about 8 inches. The upper part of the subsoil, to a depth of about 49 inches, is light brownish gray fine sandy loam with brownish mottles. The lower part, to 60 inches, is gray fine sandy loam with brownish mottles.

This soil is strongly acid or very strongly acid throughout. Permeability is moderately slow, and the available water capacity is medium. Runoff is very slow, and the erosion hazard is slight.

Included with this soil in mapping are small areas of Atmore, Harleston, Guyton, and Plummer soils.

Most of this Smithton soil is in woodland. A small acreage is in pasture or is idle. This soil is poorly suited to row crops and pasture because of frequent flooding and wetness.

This soil is well suited to loblolly and slash pines, sweetgum, cherrybark oak, and water oak. Planting of pines and sweetgum is recommended only in areas that have surface drainage or where it can be provided. Wetness is the main limitation in managing and in harvesting the tree crop. This can be partly overcome by using special equipment or by logging during the drier seasons.

This soil has severe limitations for urban uses because of flooding and wetness. Wetness severely limits the use of this soil for septic tank absorption fields.

This Smithton soil is in capability subclass Vw and in woodland suitability group 2w9.

SW—Smithton association, frequently flooded. This map unit consists of poorly drained, densely forested soils on broad wet flats, in drainageways, and on stream terraces. It is flooded several times each year for long periods. Slopes range from 0 to 2 percent. Areas range from about 200 to over 600 acres. The composition of this unit varies from one mapped area to another, but mapping has been controlled well enough for the expected use of the soils.

About 80 percent of the map unit is Smithton soils. Typically, the surface layer is very dark grayish brown fine sandy loam about 2 inches thick. The subsurface layer is grayish brown fine sandy loam to a depth of about 8 inches. The upper part of the subsoil, to about 49 inches, is light brownish gray fine sandy loam that has brownish mottles. The lower part of the subsoil, to 60 inches, is gray fine sandy loam that has brownish mottles.

Smithton soils are strongly acid or very strongly acid throughout. Permeability is moderately slow, and available water capacity is medium. Runoff is very slow. The erosion hazard is slight.

Small areas of Harleston, Bibb, and Trebloc soils and small areas of soils that are like Smithton soils but have silt loam in the surface layer and upper part of the subsoil make up about 20 percent of this unit.

This unit is densely wooded. The Smithton soils are poorly suited to row crops, pasture grasses, and legumes because of frequent flooding and wetness.

This unit is well suited to loblolly and slash pines, sweetgum, cherrybark oak, and water oak. Planting of pines and sweetgum is recommended only in areas that have surface drainage or where it can be provided. Wetness is the main limitation in managing and harvesting the tree crop. This can be partly overcome by using special equipment or by logging during the drier seasons.

This unit has severe limitations for urban uses because of wetness and flooding. Wetness also severely limits the use of this soil for septic tank absorption fields.

These Smithton soils are in capability subclass Vw and in woodland suitability group 2w9.

Sx—Sulfaquepts, sandy. This map unit consists of soils in areas of fill along the beaches and marshes and at sites of the NASA test facility, the Hancock County port and harbor, and works of improvement near the Jourdan River. Slopes range from 0 to 5 percent.

These soils are variable in texture and range from sand to silty clay and clay. The areas were first diked and then pumped full of sand, silt, and mud using brackish water or seawater.

The surface layer is strongly acid, but the subsoil is variable in reaction. These soils contain sulfur. A few months after an area has been filled, patches of yellow elemental sulfur-like material appear on the surface. The available water capacity is generally low, and the erosion hazard is slight.

Included in mapping are small areas formed by grading, digging, and filling. After the materials are dry, they are leveled and used as residential and industrial sites.

These soils are capable of growing only a few plants. They are unsuitable for lawns in their present state. Generally if lawns are to be developed, oyster shells or limestone is added to the fill and covered with suitable topsoil.

Sulfaquepts are in capability subclass VIIIs; no woodland suitability rating is given.

TR—Trebloc association, frequently flooded. This map unit consists of poorly drained soils on low, wet flats and in drainageways. Slopes range from 0 to 2 percent. These soils are densely forested and are covered by standing water for long periods. Individual areas are usually wider than one-fourth mile and are 200 to over 600 acres. Most areas are in the southwestern portion of the county. The composition of this unit varies from one mapped area to another, but mapping has been controlled well enough for the expected use of the soils.

About 90 percent of this map unit is Trebloc soils. Typically, the surface layer is dark grayish brown silt loam about 2 inches thick. The subsurface layer is

grayish brown silt loam to about 6 inches. The subsoil extends to a depth of 60 inches or more. It is light brownish gray silt loam mottled in shades of brown to a depth of about 16 inches. The next layer, to about 53 inches, is light brownish gray silty clay loam mottled in shades of brown, yellow, and gray. The lower part is silty clay loam mottled in shades of gray and brown.

Trebloc soils are strongly acid or very strongly acid throughout. Permeability is moderately slow, and available water capacity is high. Runoff is very slow, and the erosion hazard is slight.

Small areas of Atmore, Guyton, Harleston, and Smithton soils and small areas of soils that are like Trebloc soils but are less clayey in the upper part of the subsoil make up about 10 percent of this unit.

These Trebloc soils are wooded. These soils are poorly suited to row crops, pasture grasses, and legumes because of frequent flooding and wetness.

These soils are well suited to slash and loblolly pines, sweetgum, water oak, and willow oak (fig. 7). Planting of green ash, pines, or sweetgum is recommended only in areas that have surface drainage or where it can be provided. Wetness is the main limitation in managing and harvesting the tree crop. This can be partly overcome by using special equipment or by logging during drier seasons.

The map unit has severe limitations for urban uses because of wetness and flooding. Wetness severely limits the use of these soils for septic tank absorption fields.

These soils are in capability subclass Vw and woodland suitability group 2w9.

Figure 7.—Hardwood trees among undercover growth along fire lane on Trebloc association, frequently flooded.

use and management of the soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

crops and pasture

James E. Johnson, soil conservationist, Soil Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed soil map units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

More than 27,000 acres in the survey area was used for crops and pasture, according to the 1974 Census of Agriculture. Of this total, 20,500 acres was permanent pasture and 6,500 acres was used for row crops, mainly soybeans and corn.

Soil erosion is the major soil problem on about 40 percent of the cropland and pasture in Hancock County. If the slope is more than 2 percent, erosion is a hazard.

Loss of the surface layer through erosion is damaging for two reasons. Firstly, productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils with a clayey subsoil, such as the Susquehanna soils. Secondly, soil erosion on farmland may result in sediment entering streams. Control of erosion minimizes the pollution of streams by sediment and improves the quality of water for recreation and fish and wildlife.

Erosion control provides a protective surface cover, reduces runoff, and increases infiltration. A cropping system that keeps a plant cover on the soil for extended periods can hold soil erosion losses to amounts that will not reduce the productive capacity of the soils. On livestock farms, which require the pasture and hay, the legume and grass forage crops in the cropping system reduce erosion on sloping land, provide nitrogen, and improve tilth for the following crop.

Minimizing tillage and leaving crop residue on the surface increase infiltration and reduce the hazards of runoff and erosion. These practices can be adapted to most soils in the survey area. Minimum tillage is effective in reducing erosion on sloping land and can be adapted to most soils in the survey area.

Terraces and diversions reduce the length of slope and thus reduce runoff and erosion, especially on soils that have regular slopes. Harleston, Malbis, McLaurin, and Poarch soils are suitable for terraces.

Contouring and contour stripcropping are used to control erosion primarily on soils with smooth, uniform slopes.

Information for the design of erosion control practices for each kind of soil can be found in a technical guide available in the local Soil Conservation Service office.

Soil drainage is the major management concern on some of the soils used for crops and pasture. Some soils are so wet that the production of crops is not possible. For example, the poorly drained Atmore soils and Smithton soils, which make up about 25 percent of the survey area, are such soils.

Lucedale, McLaurin, and Poarch soils have good natural drainage most of the year. Small areas of wetter soils along drainageways and in swales are sometimes included in areas of the moderately well drained soils.

Soil fertility is low in most soils of the county. Many upland soils are very strongly acid or strongly acid. Unless the surface layer has been limed, applications of ground limestone are needed to raise the pH level sufficiently for good plant growth. Available phosphorus and potash levels are low in most of these soils. On all soils additions of lime and fertilizer should be based on the results of soil tests, on the need of the crop, and on the expected level of yields. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to apply.

Soil tilth is an important factor in the germination of seeds and in the infiltration of water into the soil. Soils with good tilth are granular and porous.

Most of the soils used for crops in the county have a loam or fine sandy loam surface layer that is light in color and low in content of organic matter. Generally the structure of such soils is weak, and intense rainfall causes the formation of a crust on the surface. Once the crust forms, it reduces infiltration and increases runoff. Regular additions of crop residue, manure, and other organic material can help improve soil structure and reduce crust formation.

Fall plowing is generally not a good practice on soils that have a silt loam surface layer because of the crust that forms during the winter and spring. Generally, after fall plowing, many of the soils are nearly as dense and hard at planting time as they were before plowing. Also, about one-third of the cropland consists of sloping soils that are subject to damaging erosion if they are plowed in fall.

Field crops suited to the soils and climate of the county include many that are not now commonly grown. Soybeans and corn are the principal row crops. Grain sorghum, rice, and similar crops can be grown if economic conditions are favorable. Ryegrass and oats are the common close-growing crops. Some farms have areas for catfish farming.

Latest information and suggestions for growing special crops can be obtained from the local office of the Cooperative Extension Service and the Soil Conservation Service.

The data about specific soils in this soil survey can be used in planning future land use patterns. Potential productive capacity in farming should be weighed against soil limitations for nonfarm development.

yields per acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green-manure crops; and harvesting that insures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils.

land capability classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor does it consider possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have slight limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is cold or dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The acreage of soils in each capability class and subclass is shown in table 6. The capability classification of each map unit is given in the section "Detailed soil map units."

woodland management and productivity

Robert L. Grigsby, forester, Soil Conservation Service, helped prepare this section.

Commercial woodland covers 76 percent of Hancock County, or approximately 237,000 acres (*10*). This woodland is composed of four dominant forest types. The longleaf-slash pine forest type is the largest and occupies 128,000 acres, or 54 percent, of the commercial woodland. The loblolly-shortleaf pine type occupies 19,000 acres, or 8 percent. The oak-pine type occupies 26,000 acres, or 11 percent. The oak-gum-cypress type occupies 64,000 acres, or 27 percent.

Slightly less than one-half of the county is north of the east-flowing Dead Tiger Creek and the Jourdan River. Although mostly less than 200 feet in elevation, this area includes most of the upland soils. The loblolly-shortleaf pine and oak-pine forest types are in the uplands. The longleaf-slash pine forest type occurs on both uplands and terraces. South of the Jourdan River the longleaf-slash pine forest type grows on the low terraces of the flatwoods—longleaf pines occur on sloping land and slash pines on the level positions. The oak-gum-cypress type occurs on the flood plain of the Pearl River and other streams and bayous in the county.

Five southern pine species are native and well adapted to Hancock County. These are longleaf, slash, loblolly, shortleaf, and spruce pines. All are upland species except spruce pine, which occurs in the oak-gum-cypress forest along the flood plains of the main streams. The variation in occurrence is due to soil and water relationships and past treatment by man of the soil and forest resources.

Farmers and other private owners control 165,000 acres, or 70 percent, of the commercial woodland. The forest industry owns 51,000 acres, or 21 percent. Twenty-one thousand acres, or 9 percent, (*10*) are in public ownership.

Grazing is a secondary use for most of the woodland in Hancock County. The grasses, legumes, and many of the woody plants in the understory provide forage and browse. Proper stocking of grazing animals helps prevent damage to desirable tree species.

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the woodland suitability group for each soil. Soils assigned the same suitability group require the same general management and have about the same potential productivity.

The first part of the *suitability group*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *w* indicates excessive water in or on the soil; *c*, clay in the upper part of the soil; and *s*, sandy texture. The letter *o* indicates that limitations or restrictions are insignificant.

The third element in the symbol, a numeral, indicates the kind of trees for which the soils in the group are best suited and also indicates the severity of the hazard or limitation. The numerals, 1, 2, and 3 indicate slight, moderate, and severe limitations, respectively, and suitability for needleleaved trees. The numerals 4, 5, and 6 indicate slight, moderate, and severe limitations, respectively, and suitability for broadleaved trees. The numerals 7, 8, and 9 indicate slight, moderate, and severe limitations, respectively, and suitability for both needleleaved and broadleaved trees.

In table 7, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or in equipment; and *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree to which the soil affects the mortality of tree seedlings. Plant competition is not considered in the ratings. The ratings apply to seedlings from good stock that are properly planted during a period of sufficient rainfall. A rating of *slight* indicates that the expected mortality is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Ratings of *plant competition* indicate the degree to which undesirable plants are expected to invade where there are openings in the tree canopy. The invading plants compete with native plants or planted seedlings. A rating of *slight* indicates little or no competition from other plants; *moderate* indicates that plant competition is expected to hinder the development of a fully stocked stand of desirable trees; *severe* indicates that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed to control undesirable plants.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. Site index was calculated at age 30 years for eastern cottonwood, 35 years for American sycamore, and 50 years for all other species. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suited to the soils and to commercial wood production.

recreation

The soils of the survey area are rated in table 8 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Suitability to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 8, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or all combined.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

Camp areas require site preparation such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking, horseback riding, and bicycling should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

wildlife habitat

David R. Thomas, wildlife biologist, Soil Conservation Service, helped prepare this section.

Hancock County has a large and varied population of wildlife. White-tailed deer, turkey, and squirrels inhabit the wooded areas. Bobwhites, doves, cottontail rabbits, meadowlarks, lark sparrows, and many types of songbirds live in the farmed areas where they can find food and cover. Inhabiting the marshes or wetlands are wood ducks, mallards, Canadian geese, rails, shorebirds, coots, cranes, and snipe. These areas also support muskrat, mink, nutria, otter, raccoon, alligators, turtles, and crayfish.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 9, the soils in Hancock County are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat. The overall suitability of individual sites must determined by onsite inspection of the area.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be established, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, sorghum, millet, soybeans, and sunflowers.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, bahiagrass, panicgrass, clover, ryegrass, and annual and bush lespedezas.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are perennial lespedeza, beggarweed, wild bean, and pokeberry.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, the available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, beech, dogwood, and maple. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse, seeds, and cones. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are spruce, longleaf, loblolly, and slash pines.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are wild grape, viburnum, honeysuckle, blackberry, greenbrier, and elaeagnus.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are rice, smartweed, wild millet, spikerush, burreed, cattails, rushes, sedges, pond weeds, water lilies, and tearthumb.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are wetness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

engineering

Harry C. Huey, agricultural engineer, Soil Conservation Service, helped prepare this section.

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations need to be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of absorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

building site development

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to

sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic supporting capacity.

sanitary facilities

Table 11 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 11 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones and bedrock interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to effectively filter the effluent. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 11 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock, flooding, large stones, and content of organic matter.

Excessive seepage caused by rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 11 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or the water table to permit revegation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

construction materials

Table 12 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* . The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are used in great quantities in many kinds of contruction. The ratings in table 12 provide guidance as to where to look for probable sources and are based on the probability that soils in a given area contain sizable quantities of sand or gravel. A soil rated *good* or *fair* has a layer of suitable material at least 3 feet thick, the top of which is within a depth of 6 feet. Coarse fragments of soft bedrock material, such as shale and siltstone, are not considered to be sand and gravel. Fine-grained soils are not suitable sources of sand and gravel.

The ratings do not take into account depth to the water table or other factors that affect excavation of the material. Descriptions of grain size, kinds of minerals, reaction, and stratification are given in the soil series descriptions and in table 14.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

water management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

soil properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics. These results are reported in table 19.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

engineering index properties

Table 14 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil series and their morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains particles coarser than sand, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1, 5*).

The *Unified* system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The *AASHTO* system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in table 19.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

physical and chemical properties

Table 15 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

soil and water features

Table 16 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and

soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt and water in swamps and marshes is not considered flooding.

Table 16 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, common, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *common* that it is likely under normal conditions; *occasional* that it occurs on an average of once or less in 2 years; and *frequent* that it occurs on an average of more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons that form in soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 16 are the depth to the seasonal high water table; the kind of water table—that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 16.

An apparent water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An artesian water table is under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A perched water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Only saturated zones within a depth of about 6 feet are indicated. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavations.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

physical and chemical analyses of selected soils

The results of physical analysis of two typical pedons in the survey area are given in table 17 and the results of chemical analysis in table 18. The data are for soils sampled at carefully selected sites. The pedons are typical of the series and are described in the section "Soil series and their morphology." Soil samples were analyzed by the Soil Genesis and Morphology Laboratory, Mississippi Agricultural and Forestry Experiment Station.

The grain-size analyses of these soils were obtained using the hydrometer method of Day (*4*). Forty grams of soil were dispersed in a 0.5 percent solution of sodium metaphosphate by mixing 5 minutes in a shaker. The dispersed soil was transferred to a sedimentation cylinder, made to 1,000 milliliters and equilibrated overnight in a 30 degrees C water bath. The suspension was then mixed and allowed to settle. Hydrometer readings were taken at predetermined times to determine the clay content. The total sand was separated on a 325-mesh sieve, dried, and weighed. The particle size distribution of the total sand fraction (0.05-2

mm) was determined by the weight percentage of the very coarse, coarse, medium, fine, and very fine fraction (3A1) (*9*). All results shown in table 17 are expressed on the basis of 110 degrees C oven-dry weight.

The physical properties of soils, such as water infiltration and conduction, shrink-swell potential, crusting, ease of tillage, consistence, and water holding capacity, are closely related to soil texture, that is, the percentage of sand, silt, and clay.

The soil analyses reported in table 18 were also made in the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station. The procedures used were essentially like those given in the Soil Survey Investigation Report No. 1 (SSIR) (*9*).

Soil samples were collected from open pits by the soil scientist. Preparation of the samples for analyses at the laboratory consisted of air drying, grinding, and screening through a No. 10 sieve.

The exchangeable cations, calcium, magnesium, potassium, and sodium, were extracted by neutral, normal ammonium acetate (5A1 of SSIR). Calcium and magnesium in the extract were determined with a Perkin-Elmer atomic absorption apparatus using strontium chloride to suppress interference of aluminum, silicon, and phosphorus. Potassium and sodium were analyzed by flame photometry using a Beckman flame spectrophotometer. Extractable acidity (hydrogen plus aluminum) was extracted with barium chloridetriethanolamine buffered at pH 8.2.

The percentage base saturation was calculated by dividing the sum of the bases (calcium, magnesium, sodium, and potassium) by the sum of the cations and multiplying by 100. The sum of the cations include in addition to the bases the extractable acidity (hydrogen plus aluminum).

Soil pH was determined potentiometrically with a Coleman pH meter using a 1:1 soil:water ratio. Soil pH was also determined by the potassium chloride method, which is similar to the above method except that normal potassium chloride is substituted for the water.

Percent organic matter is determined by the hydrogen peroxide method (6A3).

Most determinations, except those for grain-size analysis were made on soil material smaller than 2 millimeters in diameter. Measurements reported as percent or quantity of unit weight were calculated on an oven-dry basis. The methods used in obtaining the data are indicated in the list that follows or described in the text after the list. The codes in parentheses refer to published methods (*9*).

Sand—(0.05-2.0 mm fraction) weight percentages of materials less than 2 mm (3A1).
Organic matter—peroxide digestion (6A3).
Cation-exchange capacity—ammonium acetate, pH 7.0 (5A1a).
Reaction (pH)—1:1 water dilution (8C1a).
Reaction (pH)—potassium chloride (8C1c).

engineering index test data

Table 19 shows laboratory test data for one pedon of the Guyton series in the county. The pedon is typical of the series and is described in the section "Soil series and their morphology." The soil samples were tested by Mississippi State Highway Department, Testing Division, Jackson, Miss.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) or the American Society for Testing and Materials (ASTM).

The tests and methods are: AASHTO classification—M 145 (AASHTO), Unified classification—D 2487 (ASTM); Mechanical analysis—T 88 (AASHTO), Liquid limit—T 89 (AASHTO), Plasticity index—T 90 (AASHTO), Moisture density, Method A—T 99 (AASHTO), and Shrinkage—D 427 (ASTM).

classification of the soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*11*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. In table 20, the soils of the survey area are classified according to the system. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Fluvaquents (*Fluv*, meaning flood plain, plus *aquent*, the suborder of the Entisols that have an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Fluvaquents.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, acid, thermic Typic Fluvaquents.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. Rosebloom series is an example of a fine-silty, mixed, acid, thermic Typic Fluvaquent in Hancock County.

soil series and their morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the Soil Survey Manual (*8*). Many of the technical terms used in the descriptions are defined in Soil Taxonomy (*11*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed soil map units."

Arkabutla series

The Arkabutla series consists of somewhat poorly drained soils of the Pearl River flood plain that formed in silty materials. Slopes range from 0 to 2 percent.

Arkabutla soils are associated with Beauregard, Rosebloom and Susquehanna soils. Arkabutla soils have more gray and less brown in the upper part of the B horizon and have less plinthite than Beauregard soils; are browner and less gray in the upper part of the B horizon than Rosebloom soils; and are more silty and less clayey in the B horizon than Susquehanna soils.

Typical pedon of Arkabutla silt loam in a wooded area of Arkabutla-Rosebloom association, frequently flooded, 4,000 feet southwest of Pearl River County line at Mississippi Highway 607 along a woods road, then 30 feet north of old roadway; NW1/4NW1/4 sec. 7, T. 7 S., R. 17 W. (irregular shaped section: site is 900 feet south of Hancock County line and 600 feet east of East Pearl River).

A11—0 to 1 inch; dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; strongly acid; abrupt smooth boundary.
A12—1 to 5 inches; brown (10YR 5/3) silt loam; weak fine granular structure; friable; few fine roots; strongly acid; gradual smooth boundary.
B21—5 to 14 inches; brown (10YR 5/3) silt loam; few fine faint light brownish gray mottles; weak fine and medium subangular blocky structure; friable; few fine roots; few fine black concretions in lower part; strongly acid; gradual wavy boundary.
B22g—14 to 23 inches; light brownish gray (10YR 6/2) silt loam; common medium distinct dark brown (10YR 4/3) and few fine distinct dark yellowish brown mottles; weak fine and medium angular blocky and subangular blocky structure; friable; few fine roots; very strongly acid; gradual smooth boundary.
B23g—23 to 34 inches; light brownish gray (10YR 6/2) silty clay loam; many medium distinct dark brown (10YR 4/3) mottles; weak fine and medium angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; few fine black concretions; very strongly acid; gradual wavy boundary.
B24g—34 to 60 inches; light brownish gray (10YR 6/2) silty clay loam; common fine distinct yellowish brown and dark brown mottles; weak fine and medium angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid. Black concretions range from few to common in the B horizon.

The A horizon is dark brown or brown. The B21 horizon is brown or dark brown that has mottles in shades of gray. The B2g horizon is grayish brown, gray, or light brownish gray. The texture of the B horizon is silt loam or silty clay loam.

Atmore series

The Atmore series consists of poorly drained soils that formed in loamy materials on broad, wet upland flats. Slopes range from 0 to 2 percent.

Atmore soils are associated with Escambia, Ocilla, Plummer, and Smithton soils. Atmore soils are more gray and less brown in the upper part of the Bt horizon than Escambia soils. These soils are more silty than Ocilla and Plummer soils and lack the loamy sand A horizon 20 inches or more thick. Atmore soils differ from Ocilla, Plummer, and Smithton soils by containing more than 5 percent plinthite in the upper 60 inches of the Bt horizon.

Typical pedon of Atmore silt loam in woodland 0.5 mile north of Gulf View Elementary School gymnasium, along state-aid road, then 300 feet west of roadway; NE1/4SW1/4 sec. 12, T. 9 S., R. 15 W.

A1—0 to 5 inches; very dark gray (10YR 3/1) silt loam; common fine distinct dark yellowish brown mottles; weak fine granular structure; friable; common fine roots; very strongly acid; clear wavy boundary.
A21g—5 to 10 inches; dark grayish brown (10YR 4/2) silt loam; common medium and coarse distinct dark yellowish brown (10YR 4/4) mottles; weak fine granular structure; friable; few fine roots; very strongly acid; clear wavy boundary.
A22g—10 to 16 inches; dark grayish brown (10YR 4/2) silt loam; common medium faint gray (10YR 5/1) and common medium distinct yellowish brown (10YR 5/6) mottles; weak fine granular structure; friable; few fine roots; very strongly acid; clear irregular boundary.
Bg&A22g—16 to 26 inches; grayish brown (10YR 5/2) silt loam; many medium distinct yellowish brown (10YR 5/6) and few medium faint dark gray (10YR 4/1) mottles; weak fine and medium subangular blocky structure; friable; few fine roots; clay coating and bridging of sand grains; bodies of A2 material make up about 12 percent of volume; very strongly acid; clear irregular boundary.
B21tg—26 to 39 inches; gray (10YR 5/1) silt loam; common fine through coarse distinct yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure parting to weak fine and medium angular blocky and subangular blocky; friable, slightly plastic and slightly sticky; few fine roots; coarse vertical crawfish type holes filled with gray material; clay coating and bridging of sand grains; thin patchy clay films on faces of peds and in pores; coarse flat vertical cracks filled with gray material; very strongly acid; gradual wavy boundary.
B22tg—39 to 55 inches; mottled gray (10YR 5/1), yellowish brown (10YR 5/6), dark gray (10YR 4/1), strong brown (7.5YR 5/6) and red (2.5YR 4/6) silty clay loam; weak coarse prismatic structure parting to moderate medium and coarse angular blocky; friable, slightly plastic and slightly sticky; 8 percent medium plinthite nodules; coarse flat vertical cracks filled with gray material; clay films on faces of peds and in pores; very strongly acid; gradual wavy boundary.
B23tg—55 to 60 inches; light gray (10YR 7/2) silty clay loam; many coarse distinct light yellowish brown (2.5Y 6/4), common fine distinct brownish yellow, and few medium prominent yellowish red (5YR 5/6)

mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; firm, plastic and sticky; few fine roots; coarse flat vertical cracks filled with gray material; clay films on faces of peds and in pores; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

Color of the A1 horizon is very dark gray or dark gray. The A21g, A22g, and upper B2tg horizons are dark gray, gray, dark grayish brown, grayish brown, light gray or light brownish gray. They have few to many mottles in shades of brown, gray, and red. The upper part of the B2tg horizon is silt loam or loam. The lower part is typically mottled in shades of gray, brown, and red, but may have a matrix of gray, light gray, or light brownish gray. Texture of the lower part of the B2tg horizon is silt loam, clay loam, silty clay loam, or clay. Plinthite ranges from 5 to 10 percent between depths of 24 and 60 inches.

Beauregard series

The Beauregard series consists of moderately well drained upland soils that formed in loamy material. Slopes range from 0 to 1 percent.

Beauregard soils are associated with Arkabutla, Guyton, Rosebloom, and Trebloc soils. Beauregard soils are better drained and have more brown and less gray in the upper part of the subsoil. In some parts of the Bt horizon they are 5 to 15 percent plinthite nodules, which do not occur generally in the associated soils.

Typical pedon of Beauregard silt loam in woodland 0.9 mile south of U.S. Highway 90 along Lakeshore Road and 40 feet west of pavement at curve of road; NW1/4SW1/4 sec. 1, T. 9 S., R. 15 W.

A1—0 to 4 inches; very dark gray (10YR 3/1) silt loam, weak fine granular structure; friable; common fine and medium roots; strongly acid; clear smooth boundary.

A2—4 to 9 inches; pale brown (10YR 6/3) silt loam; weak fine granular structure; friable; few fine and medium roots; strongly acid; clear wavy boundary.

B1—9 to 19 inches; yellowish brown (10YR 5/6) silt loam; common medium faint brownish yellow (10YR 6/8) and common medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; few fine roots; strongly acid; clear smooth boundary.

B21t—19 to 32 inches; mottled yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) silty clay loam; common fine prominent red mottles; moderate medium subangular blocky structure; firm; few fine roots; thin clay films on faces of peds; about 2 percent plinthite nodules; strongly acid; clear wavy boundary.

B22t—32 to 42 inches; mottled brownish yellow (10YR 6/6) and gray (10YR 6/1) silty clay loam; moderate medium and coarse subangular and angular blocky structure; firm; few fine roots; patchy clay films on faces of peds; about 10 percent plinthite nodules; very strongly acid; gradual smooth boundary.

B23t—42 to 54 inches; light gray (10YR 7/1) silty clay loam; common medium distinct brownish yellow (10YR 6/6) mottles; moderate medium and coarse subangular and angular blocky structure; firm; few fine roots; patchy clay films on faces of peds; about 3 percent plinthite nodules; very strongly acid; gradual wavy boundary.

B24t—54 to 60 inches; light gray (10YR 7/1) silty clay loam; few fine faint pale brown, few fine distinct brownish yellow and strong brown mottles; moderate medium and coarse angular blocky structure; firm; patchy clay films on face of peds; very strongly acid.

Reaction of the A horizon ranges from slightly acid to strongly acid. Reaction of the B horizon is medium acid or strongly acid. Plinthite nodules in some parts of the Bt horizon range from 5 to 15 percent.

The A1 horizon is very dark gray or dark gray. The upper part of the B2t horizon is yellowish brown, light yellowish brown, or brownish yellow, and it has few to many mottles in shades of gray, grayish brown, or light grayish brown or the horizon is mottled in shades of brown, yellow, gray, and red. Texture is silt loam or silty clay loam. The lower part of the B2t horizon is grayish and has few to many mottles in shades of yellow, brown, and red or the horizon is mottled in shades of brown, yellow, gray, and red.

Bibb series

The Bibb series consists of poorly drained, stratified soils that formed in loamy material on flood plains. Slopes range from 0 to 2 percent.

Bibb soils are associated with Bigbee, Handsboro, and Plummer soils. Bibb soils are more poorly drained and contain more silt and clay and less sand than the Bigbee soils. The Bibb soils lack the thick layers of highly decomposed herbaceous plant remains of the Handsboro soils. Bibb soils have a loamy surface layer and stratification that is not in the Plummer soils.

Typical pedon of Bibb silt loam in a wooded area of Bigbee-Bibb complex, frequently flooded, 400 feet north of Jourdan River Bridge along Mississippi Highway 603, and west about 350 feet; sec. 31, T. 7 S., R. 14 W. (irregular shaped section).

A1—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, weak fine granular structure; friable; common fine roots; common coarse pockets of uncoated sand grains; strongly acid; clear wavy boundary.

C1g—6 to 17 inches; dark gray (10YR 4/1) silt loam; common fine faint grayish brown mottles; massive;

friable; common fine roots; thin strata of loamy sand; common coarse pockets of uncoated sand; strongly acid; clear wavy boundary.

C2g—17 to 26 inches; dark gray (10YR 4/1) silt loam; common fine faint gray mottles; massive; friable; few fine and medium roots; thin strata of loamy sand; common coarse pockets of uncoated sand grains; strongly acid; clear wavy boundary.

C3g—26 to 40 inches; dark gray (10YR 4/1) silt loam; common medium faint dark grayish brown (10YR 4/2) mottles; massive; friable; few fine roots; thin strata of loamy sand; common coarse pockets of uncoated sand grains; strongly acid; clear wavy boundary.

C4g—40 to 60 inches; dark gray (10YR 4/1) silt loam; common medium faint dark grayish brown (10YR 4/2) and dark yellowish brown (10YR 4/4) mottles; massive; friable; few fine roots; thin strata of loamy sand; common coarse pockets of uncoated sand; few fine roots; strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

The A horizon is black, very dark grayish brown, or dark grayish brown. Texture is sandy loam or silt loam. The C horizon is dark gray or gray and has mottles in shades of brown. Texture of the C horizon is fine sandy loam or silt loam.

Bigbee series

The Bigbee series consists of excessively drained soils that formed in sandy material on flood plains. Slopes range from 0 to 2 percent.

Bigbee soils are associated with Bibb, Harleston, and Poarch soils. Bigbee soils are better drained and more sandy than the loamy Bibb and Harleston soils and are more sandy than Poarch soils.

Typical pedon of Bigbee loamy sand in a wooded area of Bigbee-Bibb complex, frequently flooded, 1.3 miles west of Mississippi Highway 603 along Texas Flat Road then north 0.4 mile along oil pipeline to 40 feet from Jourdan River, on east edge of right-of-way; SE1/4SE1/4 sec. 35, T. 7 S., R. 15 W.

A1—0 to 8 inches; very dark grayish brown (10YR 3/2) loamy sand; common coarse faint brown (10YR 5/3) mottles; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

C1—8 to 23 inches; yellowish brown (10YR 5/4) loamy sand; common coarse faint pale brown (10YR 6/3) mottles; single grained; loose; few fine roots; very strongly acid; clear smooth boundary.

C2—23 to 38 inches; yellowish brown (10YR 5/4) loamy sand; common coarse faint brown (10YR 5/3) mottles; single grained; loose; few fine roots; very strongly acid; clear smooth boundary.

C3—38 to 52 inches; pale brown (10YR 6/3) fine sand; common medium faint light yellowish brown (10YR 6/4) mottles; single grained; loose; few fine roots; strongly acid; clear smooth boundary.

C4—52 to 60 inches; white (10YR 8/1) fine sand; few fine faint pale brown mottles; single grained; loose; water table at 52 inches; medium acid.

In unlimed areas, reaction ranges from medium acid to very strongly acid.

Color of the A horizon is dark grayish brown, very dark grayish brown, or brown. Texture is loamy sand or fine sand. The upper part of the C horizon is light yellowish brown or yellowish brown. Texture is fine sand or loamy sand. The lower part of the C horizon is very pale brown, pale brown, or white and is mottled in shades of brown in places. Texture is fine sand or sand.

Bohicket series

The Bohicket series consists of very poorly drained soils of the tidal marshes. They formed in clayey material and are flooded by seawater daily. Slopes range from 0 to 1 percent.

Bohicket soils are associated with Beaches, Handsboro soils, and Sulfaquepts. Bohicket soils are darker in color and less sandy than Beaches, contain more mineral soil materials and less organic matter than Handsboro soils, and contain more clay than Sulfaquepts.

Typical pedon of Bohicket silty clay in salt marsh 1,600 feet north of Grand Island Pass along Campbell Outside Bayou, then 50 feet west of bayou (site is on J. J. Waterhouse Claim); sec. 8, T. 10 S., R. 15 W.

A1g—0 to 10 inches; very dark brown (10YR 2/2) silty clay; many medium distinct dark brown (7.5YR 4/4) and very dark gray (10YR 3/1) mottles; massive; sticky; undecomposed fibrous roots approximately 10 percent of mass by volume; soil flows easily between fingers when squeezed and leaves small residue in hand; *n* value 1.2 (estimate); neutral; gradual smooth boundary.

C1g—10 to 27 inches; very dark gray (10YR 3/1) silty clay; common medium distinct dark brown (7.5YR 4/4) mottles; massive; sticky; common fine roots; soil flows easily between fingers when squeezed and leaves small residue; slightly acid; gradual smooth boundary.

C2g—27 to 38 inches; very dark gray (10YR 3/1) silty clay; common fine distinct dark brown mottles; massive; sticky; common fine roots; soil flows easily between fingers when squeezed and leaves small residue in hand; neutral; clear wavy boundary.

C3g—38 to 62 inches; black (10YR 2/1) silt loam; massive; sticky; few fine and medium roots; flows easily between fingers when squeezed and leaves small residue in hand; neutral.

The reaction ranges from moderately alkaline to slightly acid. After soil has dried for 30 days, reaction is extremely acid. The *n* values for all horizons within the 10- to 40-inch control section are 1.0 or more.

Color of the A horizon is gray, very dark brown, or dark gray. Color of the Cg horizon is dark gray, very dark gray, or black. Texture of the Cg horizon is silt loam, silty clay, or clay. Some pedons have silt loam below about 40 inches.

Escambia series

The Escambia series consists of somewhat poorly drained soils that formed in loamy materials on uplands. Slopes range from 0 to 5 percent.

Escambia soils are associated with Atmore, Harleston, and Smithton soils. Escambia soils are browner and less gray in the upper part of the Bt horizon than Atmore soils; contain more than 5 percent plinthite nodules in the Bt horizon, which Harleston and Smithton soils lack; and are browner in the upper part of the Bt horizon than Smithton soils.

Typical pedon of Escambia loam, 0 to 2 percent slopes, in woodland 2 miles north of Bascule bridge across navigation lock at NASA, 1.2 miles east along a blacktop road, 0.2 mile north along a gravel road, then 25 feet east of roadway (site is about 40 feet south of an east-west local road); SW1/4NE1/4 sec. 4, T. 8 S., R. 16 W.

A11—0 to 4 inches; very dark gray (10YR 3/1) loam; weak fine granular structure; very friable; common fine roots; very strongly acid; abrupt smooth boundary.

A12—4 to 7 inches; dark gray (10YR 4/1) loam; few medium faint light brownish gray (10YR 6/2) mottles; weak fine granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.

A2—7 to 14 inches; grayish brown (10YR 5/2) loam; few fine distinct yellowish brown mottles; weak fine granular structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

B21t—14 to 22 inches; mottled yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), and light olive brown (2.5Y 5/4) loam; weak fine subangular blocky structure; friable; few fine roots; clay coating and bridging of sand grains; some uncoated sand grains in gray areas; crayfish channel filled with dark gray silt loam; very strongly acid; gradual wavy boundary.

B22t—22 to 33 inches; mottled gray (10YR 6/1), light olive brown (2.5Y 5/4), yellowish brown (10YR 5/6), and light brownish gray (10YR 6/2) loam; moderate fine and medium subangular blocky structure; friable; few fine roots; few plinthite nodules; clay films on faces of peds; crayfish channel filled with dark gray silt loam; very strongly acid; gradual wavy boundary.

B23t—33 to 42 inches; mottled light olive brown (2.5Y 5/4), yellowish brown (10YR 5/8), red (2.5YR 4/8), and gray (10YR 6/1) sandy clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; clay films on faces of peds; crayfish channels filled with dark gray silt loam; 10 to 15 percent plinthite nodules; very strongly acid; clear wavy boundary.

B24t—42 to 49 inches; mottled yellowish brown (10YR 5/6), gray (10YR 6/1), light olive brown (2.5Y 5/4), and red (10R 4/6) sandy clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; clay films on faces of peds; crayfish channel filled with dark gray silt loam; 10 to 15 percent plinthite nodules; very strongly acid; gradual wavy boundary.

B25t—49 to 60 inches; mottled yellowish brown (10YR 5/6), red (10R 4/6), and light brownish gray (10YR 6/2) sandy clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; clay films on faces of peds; crayfish channel filled with dark gray silt loam; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile. The depth to the horizon with over 5 percent plinthite ranges from 20 to 42 inches.

The A1 horizon is dark gray, dark grayish brown, or very dark gray. The A2 horizon is gray, grayish brown, or light brownish gray and has mottles in shades of brown. The upper part of the B2t horizon is yellowish brown, light yellowish brown, pale brown, and brownish yellow and has grayish mottles or is mottled in shades of brown and gray. Texture is silt loam, loam, or fine sandy loam. The lower part of the B2t horizon is light olive gray, gray, light brownish gray, or light gray or is mottled in shades of gray, brown, yellow, and red. Texture is fine sandy loam, sandy clay loam, or loam. Content of plinthite nodules in the lower part of the B2t horizon ranges from 5 to 15 percent.

Eustis series

The Eustis series consists of somewhat excessively drained soils that formed in sandy material on uplands. Slopes range from 2 to 5 percent.

Eustis soils are associated with McLaurin, Ocilla, and Ruston soils. Eustis soils are more excessively drained and have a sandier Bt horizon than the loamy McLaurin, Ocilla, and Ruston soils.

Typical pedon of Eustis loamy fine sand, 2 to 5 percent slopes, in woodland, 500 feet west of the St. Louis Bay bridge and 150 feet south of U.S. Highway 90; sec. 20 (irregular shaped section), T. 8 S., R. 13 W.

A1—0 to 6 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak fine granular structure; very friable; common fine roots; strongly acid; clear smooth boundary.

A21—6 to 15 inches; dark brown (7.5YR 4/4) loamy sand; weak fine granular structure; very friable; few

fine roots; common coarse pockets of uncoated sand grains; strongly acid; gradual smooth boundary.
A22—15 to 26 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; few fine roots; strongly acid; gradual smooth boundary.
B21t—26 to 44 inches; yellowish red (5YR 4/6) loamy sand; weak fine subangular blocky structure; very friable; few fine roots; clay coating and bridging of sand grains; strongly acid; gradual wavy boundary.
B22t—44 to 51 inches; yellowish red (5YR 5/8) loamy sand; weak fine subangular blocky structure; very friable; few fine roots; clay bridging and coating of sand grains; common medium pockets of uncoated sand grains; strongly acid; gradual wavy boundary.
B23t—51 to 68 inches; yellowish red (5YR 5/8) loamy sand; common medium faint reddish yellow (5YR 6/6) mottles; weak fine subangular blocky structure; very friable; clay coating and bridging of sand grains; strongly acid; gradual wavy boundary.
C1—68 to 73 inches; mottled reddish yellow (7.5YR 6/6), light brown (7.5YR 6/4), and yellowish red (5YR 5/6) loamy sand; single grained, loose; strongly acid; gradual wavy boundary.
C2—73 to 85 inches; strong brown (7.5YR 5/6) sand; common medium distinct light brown (7.5YR 6/4) mottles; single grained, loose; strongly acid.

In unlimed areas reaction is strongly acid or very strongly acid throughout the profile.

The A1 horizon is dark grayish brown, dark brown, very dark gray, very dark grayish brown, or brown. The A2 horizon is brown, dark brown, and yellowish brown. The B2t horizon is strong brown, yellowish red, reddish yellow, or yellowish brown. The B2 horizon is loamy sand or loamy fine sand. The C horizon is yellowish red, reddish yellow, strong brown, very pale brown, white, light gray, or is mottled in shades of yellow, red, brown, and white.

Guyton series

The Guyton series consists of poorly drained soils that formed in loamy material. Slopes range from 0 to 1 percent.

Guyton soils are associated with Beauregard, Smithton, and Trebloc soils. Guyton soils have more gray and less brown in the upper part of the Bt horizon than Beauregard soils. They are finer textured in the upper part of the subsoil than Smithton soils. Guyton soils have more exchangeable bases in the lower part of the subsoil than Trebloc soils.

Typical pedon of Guyton silt loam in 100 idle acres about 0.5 mile west of natural gas pipeline pumping station, along Mulatto Bayou Road, then 90 feet south of roadway (site is on Nancy Collins claim); NE1/4NW1/4 sec. 28, T. 9 S., R. 15 W.

A1—0 to 4 inches; very dark gray (10YR 3/1) silt loam; few fine faint gray mottles; weak fine granular structure; very friable; common fine roots; few fine earthworm holes; very strongly acid; clear smooth boundary.
A21g—4 to 9 inches; light brownish gray (10YR 6/2) silt loam; common medium faint very dark grayish brown (10YR 3/2) and common fine distinct yellowish brown (10YR 5/8) mottles; weak fine granular structure; very friable; few fine roots and few coarse roots; very strongly acid; clear smooth boundary.
A22g—9 to 17 inches; light brownish gray (10YR 6/2) silt loam; common fine distinct yellowish brown (10YR 5/8), and strong brown (7.5YR 5/6) mottles; weak fine granular structure; very friable; few fine roots and few coarse roots; very strongly acid; clear irregular boundary.
Bt&Ag—17 to 31 inches; gray (10YR 6/1) silt loam; common medium distinct yellowish brown (10YR 5/8), and strong brown (7.5YR 5/6) mottles; weak fine and medium subangular blocky structure; friable; few fine roots; tongues of gray silt loam about 2 inches wide extend through the horizon; thin patchy clay films on faces of peds and in pores; strongly acid; clear irregular boundary.
B21tg—31 to 47 inches; light brownish gray (10YR 6/2) silty clay loam; common medium faint gray (10YR 6/1) and many medium distinct yellowish brown (10YR 5/8) mottles; moderate medium and coarse subangular and angular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; thin patchy clay films on faces of peds and in pores; tongues of gray silt loam, up to 2 inches wide, extend through the horizon; strongly acid; clear smooth boundary.
B22tg—47 to 63 inches; light brownish gray (2.5Y 6/2), silty clay loam; many coarse faint gray (10YR 6/1) and common fine and medium distinct yellowish brown (10YR 5/8) mottles; moderate medium and coarse angular blocky structure; firm, plastic and sticky; few fine roots; thin patchy clay films on faces of peds; few tongues of gray silt loam; strongly acid.

In unlimed areas reaction is strongly acid or very strongly acid in the A horizon and upper part of the Bt horizon and medium acid or strongly acid in the lower Bt horizon.

Color of the A1 horizon is very dark gray, dark grayish brown, or grayish brown. The Btg horizon is gray, light brownish gray, or grayish brown. Texture is silt loam or silty clay loam.

Handsboro series

The Handsboro series consists of very poorly drained soils of the tidal marshes that are flooded by seawater daily. These soils formed in highly decomposed

herbaceous plant remains, and they have thin mineral layers. Slopes range from 0 to 1 percent.

Handsboro soils are associated with Beaches and Bibb and Bohicket soils. Handsboro soils formed in dark, well decomposed, fibrous, organic materials. They are less sandy than Beaches and have a higher organic matter content than Bibb and Bohicket soils.

Typical pedon of Handsboro mucky silt loam from an area of Handsboro association in salt marsh, up the Jourdan River, 0.5 mile northwest of the Interstate Highway 10 bridge, then 275 feet east of the river, SW1/4SW1/4 sec. 4, T. 8 S., R. 14 W. (irregular shaped section).

A1—0 to 2 inches; very dark gray (10YR 3/1) mucky silt loam; massive, slightly sticky; many fine roots; moderately alkaline in water; abrupt smooth boundary.

Oa1—2 to 14 inches; very dark grayish brown (10YR 3/2) broken face, pressed, or rubbed sapric material; about 65 percent fiber, about 11 percent rubbed; massive, nonsticky; many fine roots; about 30 percent mineral material; moderately alkaline in water; gradual smooth boundary.

Oa2—14 to 30 inches; very dark gray (10YR 3/1) broken faced, pressed, or rubbed sapric material; about 30 percent fiber, about 14 percent rubbed; massive, nonsticky; common fine roots; about 35 percent mineral content; mildly alkaline in water; gradual smooth boundary.

Oa3—30 to 46 inches; black (10YR 2/1) broken faced, pressed, or rubbed sapric material; about 10 percent fiber, about 2 percent rubbed; massive, nonsticky; common fine roots; about 30 percent mineral content; mildly alkaline in water; clear smooth boundary.

IIC1—46 to 48 inches; dark grayish brown (10YR 4/2) loam; massive, slightly sticky; common fine roots; moderately alkaline in water; clear smooth boundary.

Oa4—48 to 54 inches; very dark grayish brown (10YR 3/2) broken faced, pressed, or rubbed sapric material; about 9 percent fiber, about 1 percent rubbed; massive, nonsticky; common fine roots; about 30 percent mineral content; mildly alkaline in water; clear smooth boundary.

IIC2—54 to 56 inches; dark grayish brown (10YR 4/2) loam; massive, slightly sticky; common fine roots, moderately alkaline in water; clear smooth boundary.

Oa5—56 to 61 inches; very dark gray (10YR 3/1) broken faced, pressed, or rubbed sapric material; about 7 percent fiber, about 1 percent rubbed; massive, nonsticky; common fine roots; about 35 percent mineral content; mildly alkaline in water.

The soil ranges from moderately alkaline to neutral undrained and becomes extremely acid on drying.

Mineral content of the organic horizons ranges from 30 to 35 percent. The Oa horizon is black, very dark grayish brown, or very dark gray, and its rubbed fiber content ranges from 1 to 16 percent. Texture of the mineral layers ranges from loam to silt loam.

Conductivity of the saturation extract of layers at depths below 6 inches ranges from about 16 to 35 millimhos per centimeter. Sulfur content ranges from about 0.75 to 2 percent in the subhorizons within 12 to 40 inches of the surface.

Harleston series

The Harleston series consists of moderately well drained upland soils that formed in loamy materials. Slopes range from 0 to 5 percent.

Harleston soils are associated with Bigbee, Escambia, Poarch, and Trebloc soils. Harleston soils have a loamy B2t horizon that the Bigbee soils do not have. Harleston soils do not have more than 5 percent plinthite nodules in the B2t horizon as Escambia and Poarch soils do. Harleston soils are better drained than Trebloc soils and are not dominantly gray in the upper part of the subsoil.

Typical pedon of Harleston fine sandy loam, 2 to 5 percent slopes, in woodland in the Silver Creek Acres subdivision, 0.6 mile north of Kiln-Delisle Road along gravel road, then 0.2 mile east and north approximately 0.2 mile on east side of road; NE1/4SW1/4 sec. 21, T. 7 S., R. 14 W.

A1—0 to 4 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

A2—4 to 8 inches; light olive brown (2.5Y 5/4) fine sandy loam that has some mixing of darker material from the A1 horizon; weak fine and medium granular structure; friable; few fine roots; strongly acid; clear wavy boundary.

B21t—8 to 21 inches; light olive brown (2.5Y 5/6) sandy loam; weak fine and medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B22t—21 to 30 inches; yellowish brown (10YR 5/6) loam with common medium distinct light olive brown (2.5Y 5/6), red (2.5YR 4/6), and light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; about 2 percent plinthite nodules; very strongly acid; gradual wavy boundary.

B23t—30 to 46 inches; mottled yellowish brown (10YR 5/6), light olive brown (2.5Y 5/6), light brownish gray (10YR 6/2), and red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; about 1 percent plinthite nodules; few thin patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

B24t—46 to 60 inches; mottled yellowish brown (10YR 5/8), light brownish gray (10YR 6/2), red (2.5YR 4/6), and light olive brown (2.5Y 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few thin patchy clay films on faces of peds; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

The A1 horizon is very dark gray, dark gray, or dark grayish brown. The A2 horizon is dark grayish brown or light olive brown. Color of the upper part of the B2t horizon is yellowish brown, brownish yellow, light yellowish brown, strong brown, and light olive brown. Texture is sandy loam or loam. The lower part of the Bt horizon is similar to the upper part in range of matrix colors or is mottled with shades of brown, gray, or red. The lower Bt horizon is sandy loam, loam, or sandy clay loam.

Lucedale series

The Lucedale series consists of well drained soils that formed in loamy material. Slopes range from 0 to 2 percent.

Lucedale soils are associated with McLaurin, Poarch, and Smithdale soils. Lucedale soils are redder in the B horizon than McLaurin, Poarch, and Smithdale soils. They do not have horizons containing over 5 percent plinthite nodules as do the Poarch soils.

Typical pedon of Lucedale fine sandy loam, 0 to 2 percent slopes, in a field about 1.1 miles south of Leetown Baptist Church, and 100 feet west of roadway; NE1/4NE1/4 sec. 8, T. 6 S., R. 15 W.

Ap—0 to 6 inches; dark brown (7.5YR 3/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

B21t—6 to 11 inches; dark reddish brown (2.5YR 3/4) sandy clay loam; weak medium subangular blocky structure; friable; many fine roots; 3 or 4 percent of volume is fine root or worm holes filled with material similar to that in the Ap horizon; patchy clay films on faces of peds; very strongly acid; gradual smooth boundary.

B22t—11 to 46 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of peds; very strongly acid; gradual smooth boundary.

B23t—46 to 64 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; patchy clay films on faces of peds; very strongly acid.

Reaction of the A horizon ranges from slightly acid to strongly acid. Reaction of the B horizon is strongly acid or very strongly acid.

Color of the Ap horizon is dark reddish brown or dark brown. The Bt horizon is dark reddish brown or dark red. The texture of the Bt horizon is sandy clay loam, clay loam, or loam.

Malbis series

The Malbis series consists of moderately well drained upland soils that formed in loamy materials. Slopes range from 0 to 8 percent.

Malbis soils are associated with Ruston, Saucier, and Susquehanna soils. Malbis soils are more yellow and less red in the upper part of the Bt horizon than Ruston soils and contain more than 5 percent plinthite nodules, which Ruston and Susquehanna soils lack. Malbis soils do not have chroma 2 mottles in the upper 30 inches or plastic clays in the lower part of the subsoil as do the Saucier soils. Malbis soils are more loamy and less clayey throughout the Bt horizon than Susquehanna soils.

Typical pedon of Malbis fine sandy loam, 2 to 5 percent slopes, in a wooded area 0.6 mile south of Standard along paved road, then 0.7 mile southwest on paved road, then 75 feet northwest of pavement, under an electric power line; NW1/4SW1/4 sec. 10, T. 6 S., R. 14 W.

A1—0 to 3 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; common medium and fine roots; strongly acid; clear smooth boundary.

A2—3 to 7 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; friable; common medium and fine roots; strongly acid; abrupt smooth boundary.

B21t—7 to 20 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; thin clay films on faces of peds; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.

B22t—20 to 32 inches; strong brown (7.5YR 5/8) sandy clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; 2 percent plinthite nodules; patchy clay films on faces of peds; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.

B23t—32 to 44 inches; strong brown (7.5YR 5/8) sandy clay loam; few fine distinct light gray mottles; moderate medium subangular blocky structure; 6 percent plinthite nodules; patchy clay films on faces of peds; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B24t—44 to 60 inches; strong brown (7.5YR 5/6) sandy clay loam; common fine faint strong brown and few medium distinct light gray (10YR 7/2) mottles; moderate medium subangular blocky structure; 8 percent plinthite nodules; few patchy clay films on faces of peds; sand grains coated and bridged with clay; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

The A horizon is very dark grayish brown, dark grayish brown, grayish brown, or dark brown. The B2t horizon is yellowish brown or strong brown. Texture is loam, sandy clay loam, or clay loam. The lower part of the B2t horizon contains more than 5 percent plinthite nodules. Chroma 2 mottles occur at depths below 30 inches.

McLaurin series

The McLaurin series consists of well drained upland soils that formed in loamy material. Slopes range from 2 to 8 percent.

McLaurin soils are associated with Eustis, Lucedale, and Smithdale soils. McLaurin soils are more loamy and less sandy in the Bt horizon than Eustis soils and contain more sand and less clay in the upper part of the B2t horizon than Lucedale and Smithdale soils.

Typical pedon of McLaurin fine sandy loam, 2 to 5 percent slopes, in woodland, 1.5 miles northeast of Standard along a local road and 50 feet south of roadway; SE1/4SE1/4 sec. 35, T. 5 S., R. 14 W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; some mixing from A2 horizon; very strongly acid; clear smooth boundary.

A2—5 to 9 inches; brown (7.5YR 5/4) sandy loam; weak fine and medium granular structure; friable; few fine roots; very strongly acid; gradual smooth boundary.

A3—9 to 16 inches; strong brown (7.5YR 5/6) sandy loam; weak fine granular and subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

B2t—16 to 34 inches; yellowish red (5YR 5/6) sandy loam; moderate fine and medium subangular and angular blocky structure; friable; few fine roots; clay bridging and coating on sand grains; very strongly acid; clear wavy boundary.

B&A'2—34 to 48 inches; yellowish red (5YR 5/8) loamy sand; common medium distinct reddish yellow (7.5YR 6/6) mottles; weak fine subangular blocky structure; very friable; reddish yellow areas are single grained sandy material; few fine roots; few medium and coarse pockets of uncoated sand grains; very strongly acid; gradual wavy boundary.

B'2t—48 to 75 inches; red (2.5YR 4/8) sandy loam; weak fine and medium subangular blocky structure; friable; clay coating and bridging of sand grains; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness. In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

The A1 horizon is very dark grayish brown, dark brown, or dark grayish brown. The Ap or A2 horizon is brown, dark grayish brown, or yellowish brown. The A3 horizon is strong brown, yellowish brown, dark yellowish brown, or light yellowish brown. The B2t horizon is red, reddish brown, or yellowish red. The B2t horizon ranges from 10 to 18 percent clay. The B&A'2 horizon is similar in color to the B2t horizon, except the A'2 portion is reddish yellow, pale brown, or light yellowish brown. Texture is sandy loam or loamy sand. The B'2t horizon is red, reddish brown, or yellowish red. Texture is sandy loam, loam, or sandy clay loam.

Ocilla series

The Ocilla series consists of somewhat poorly drained upland soils that have a thick sandy surface layer over loamy materials. Slopes range from 0 to 2 percent.

Ocilla soils are associated with Atmore, Eustis, and Plummer soils. Ocilla soils have a thicker, more sandy A horizon and a browner B horizon than Atmore soils. These soils have a more loamy, more gray Bt horizon than the Eustis soils. Ocilla soils have a thinner A horizon and are browner in the upper part of the B horizon than the poorly drained Plummer soils.

Typical pedon of Ocilla loamy sand in woodland, 2 miles southeast of Jourdan River Bridge along Mississippi Highway 603, north 1,000 feet along a local road and 100 feet east of roadway; NE1/4SE1/4 sec. 28, T. 8 S., R. 14 W.

A1—0 to 8 inches; dark gray (10YR 4/1) loamy sand; weak fine granular structure; very friable; common fine and medium pockets of uncoated sand grains; very strongly acid; clear smooth boundary.

A2—8 to 32 inches; dark grayish brown (10YR 4/2) loamy sand; common medium faint gray (10YR 6/1) mottles; weak fine granular structure; very friable; common medium pockets of uncoated sand grains; very strongly acid; clear smooth boundary.

B21t—32 to 42 inches; yellowish brown (10YR 5/6) sandy loam; many medium faint strong brown (7.5YR 5/6) and many medium distinct grayish brown (10YR 5/2) mottles; weak fine and medium subangular blocky structure; friable, slightly sticky; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B22t—42 to 50 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/8), red (2.5YR 4/6), and strong brown (7.5YR 5/8) sandy loam; weak fine and medium subangular blocky structure; friable, slightly sticky; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B23t—50 to 60 inches; yellowish brown (10YR 5/6) sandy loam; common medium distinct light brownish gray (10YR 6/2) and common medium faint strong brown (7.5YR 5/6) mottles; weak fine and medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

The sandy A horizon ranges in thickness from 25 to 35 inches. The A1 horizon is very dark gray or dark gray. The A2 horizon is dark grayish brown or grayish brown that has mottles in shades of brown or gray. The upper part of the B2t horizon is yellowish brown or strong brown that has few to many grayish mottles. The lower part of the B2t horizon is similar in color to the upper part of the B2t horizon or is mottled in shades of brown, gray, and red. Texture is fine sandy loam, sandy loam, or sandy clay loam.

Plummer series

The Plummer series consists of poorly drained soils that have a thick sandy surface layer over loamy materials. Slopes range from 0 to 2 percent.

Plummer soils are associated with Atmore, Bibb, and Ocilla soils. Plummer soils have a thicker, sandier A horizon than Atmore soils and do not have more than 5 percent plinthite nodules in any horizon above the 60 inch depth. Plummer soils have a thick sandy A horizon that Bibb soils lack. They are thicker in the A horizon and more gray in the upper part of the B horizon than Ocilla soils.

Typical pedon of Plummer loamy sand in wooded area 1 mile north of U.S. Highway 90, along Dunbar Avenue, then west 0.5 mile along Thomas Street and 100 feet south of pavement; sec. 38, T. 8 S., R. 14 W. (irregular shaped section).

A1—0 to 5 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; few fine and medium roots; common fine pockets of uncoated sand grains; strongly acid; clear smooth boundary.

A21g—5 to 10 inches; gray (N 5/0) loamy sand; common medium distinct very dark grayish brown (10YR 3/2) mottles; weak fine granular structure; very friable; many medium pockets of uncoated sand grains; few fine and medium roots; strongly acid; gradual wavy boundary.

A22g—10 to 28 inches; gray (N 5/0) loamy sand; common medium distinct dark yellowish brown (10YR 3/4) mottles; weak fine granular structure; very friable; few fine and medium roots; common fine and medium pockets of uncoated sand grains; strongly acid; gradual wavy boundary.

A23g—28 to 41 inches; gray (N 5/0) loamy sand; common medium distinct dark brown (10YR 3/3) mottles; weak fine granular structure; very friable; few fine roots; common medium pockets of uncoated sand grains; strongly acid; clear irregular boundary.

B21tg—41 to 48 inches; gray (10YR 5/1) sandy loam; many medium distinct yellowish brown (10YR 5/8) and many medium prominent red (2.5YR 4/6) mottles; weak fine subangular blocky structure; friable; few fine roots; common fine pockets of uncoated sand grains; clay coating and bridging of sand grains; very strongly acid; gradual wavy boundary.

B22tg—48 to 60 inches; gray (10YR 6/1) sandy loam; common medium distinct yellowish brown (10YR 5/8), common medium faint gray (10YR 5/1), and few coarse prominent red (2.5YR 4/6) mottles; weak fine subangular blocky structure; friable; clay coating and bridging of sand grains; very strongly acid.

In unlimed areas reaction is strongly acid or very strongly acid throughout the profile.

The A1 horizon is very dark gray or dark gray. The A2 horizon is gray or light gray that has brownish or grayish mottles. Thickness of the A horizon ranges from 40 to 45 inches. The B2t horizon is gray or light gray that has mottles in shades of brown, yellow, and red.

Poarch series

The Poarch series consists of well drained upland soils that formed in loamy materials. Slopes range from 0 to 12 percent.

Poarch soils are associated with Bigbee, Harleston, Lucedale, and Saucier soils. Poarch soils are more loamy and less sandy throughout than Bigbee soils. Poarch soils do not have gray mottles within 30 inches of the surface as the Harleston and Saucier soils do. Poarch soils are more yellowish and less red in the B2t horizon than Lucedale soils. They are more loamy and less clayey in the lower part of the B2t horizon than the Saucier soils.

Typical pedon of Poarch fine sandy loam, 2 to 5 percent slopes, in pasture 100 feet east of roadway. The site is approximately 0.6 mile southwest of Fenton and Rocky Hill roads crossing; NW1/4NE1/4 sec. 10, T. 7 S., R. 14 W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam, weak fine granular structure; very friable; few fine roots; medium acid; abrupt smooth boundary.

B21t—6 to 23 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine and medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; few medium sesquioxide nodules; very strongly acid; gradual wavy boundary.

B22t—23 to 35 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine and medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; few medium sesquioxide nodules; very strongly acid; gradual wavy boundary.

B23t—35 to 51 inches; yellowish brown (10YR 5/6) fine sandy loam; common medium distinct strong brown

(7.5YR 5/8) and few medium distinct yellowish red (5YR 5/6) mottles; weak fine subangular blocky structure; friable; the redder portion is firm and slightly compact and brittle; few fine roots; few medium and coarse sesquioxide nodules; few medium plinthite nodules; few fine pockets of uncoated sand grains; very strongly acid; gradual wavy boundary.

B24t—51 to 60 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), gray (10YR 6/1), and red (2.5YR 4/8) fine sandy loam; weak coarse prismatic structure parting to weak fine and medium subangular blocky; red portion is firm, brittle and compact; clay films on faces of peds; about 6 percent plinthite nodules; few fine voids; very strongly acid.

In unlimed areas reaction is strongly acid or very strongly acid.

The A horizon is very dark gray, very dark grayish brown, grayish brown, or dark grayish brown. The A2 horizon, where present, is grayish brown or brown.

The upper part of the B2t horizon is yellowish brown, light yellowish brown, brownish yellow, or light olive brown. Gray mottles are in some pedons below a depth of 32 inches. Texture of the B2t horizon is fine sandy loam, sandy loam, or loam. The lower part of the B2t horizon is mottled in shades of brown, gray, and red or is dominantly brownish mottled in shades of gray, red, and olive. Texture is fine sandy loam, loam, or sandy clay loam.

Reddish spheroidal masses of plinthite make up 5 to 10 percent of the material between depths of 40 and 58 inches. Sesquioxide nodules are in some pedons.

Rosebloom series

Rosebloom series consists of poorly drained soils of the Pearl River flood plain. They formed in silty material. Slopes range from 0 to 2 percent.

Rosebloom soils are associated with Arkabutla, Beauregard, and Saucier soils. Rosebloom soils are more poorly drained and contain more gray and less brown in the upper part of the subsoil than Arkabutla, Beauregard, and Saucier soils. Rosebloom soils do not have the Bt horizon containing more than 5 percent plinthite nodules that occurs in the Beauregard and Saucier soils.

Typical pedon of Rosebloom silt loam in a wooded 800-acre area of Arkabutla-Rosebloom association, frequently flooded, 1.1 miles southwest of NASA Gate 16, then west 0.6 mile on Pearl River Road to Harris Field Road, then southwest of intersection 30 feet; NW1/4NW1/4 sec. 1, T. 8 S., R. 17 W.

A11—0 to 1 inch; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; strongly acid; abrupt smooth boundary.

A12—1 to 5 inches; grayish brown (10YR 5/2) silt loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak fine granular structure; friable; few fine roots; strongly acid; clear smooth boundary.

B21g—5 to 10 inches; light brownish gray (10YR 6/2) silt loam; common fine distinct yellowish brown and few fine faint light gray mottles; weak fine granular structure; friable, few fine roots; few fine voids; very strongly acid; clear smooth boundary.

B22g—10 to 18 inches; light brownish gray (10YR 6/2) silt loam; few fine distinct dark brown and few medium distinct yellowish brown (10YR 5/4) mottles; weak fine and medium subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; very strongly acid; clear smooth boundary.

B23g—18 to 35 inches; gray (10YR 6/1) silt loam; many coarse distinct yellowish brown (10YR 5/6) mottles; weak fine and medium subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots, few fine black manganese concretions; very strongly acid; clear wavy boundary.

B24g—35 to 44 inches; gray (10YR 6/1) silty clay loam; many coarse distinct yellowish brown (10YR 5/6) and common medium distinct strong brown (7.5YR 5/6) mottles; weak fine and medium angular blocky and subangular blocky structure; friable, plastic and sticky; few fine roots; very strongly acid; clear wavy boundary.

B25g—44 to 53 inches; gray (10YR 6/1) silty clay loam; many coarse distinct strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) mottles; weak fine and medium subangular blocky structure; friable, plastic and sticky; few fine roots; very strongly acid; clear wavy boundary.

B26g—53 to 60 inches; gray (10YR 6/1) silty clay loam; many coarse distinct strong brown (7.5YR 5/6) and common coarse distinct yellowish brown (10YR 5/6) mottles; weak fine and medium subangular blocky structure; friable, plastic and sticky; strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid.

The A11 horizon is brown or dark grayish brown. The A12 horizon, where present, is grayish brown or dark gray.

The B horizon colors are gray, light gray, or light brownish gray mottled in shades of brown. The B horizon texture is silt loam or silty clay loam. Manganese concretions range from few to common in some horizons.

Ruston series

The Ruston series consists of well drained upland soils that formed in loamy materials. Slopes are 0 to 8 percent.

Ruston soils are associated with Eustis, Malbis, and Smithdale soils. Ruston soils are more loamy and less sandy throughout than Eustis soils. Ruston soils are redder than Malbis soils and do not have a horizon with

more than 5 percent plinthite nodules. Ruston soils have finer texture in the lower part of the Bt horizon than Smithdale soils and are bisequal.

Typical pedon of Ruston fine sandy loam, 0 to 2 percent slopes, in a field, 4.8 miles northwest of intersection of Mississippi Highways 603 and 43, along Highway 43, then 0.6 mile south on a paved road, 0.7 mile southwest along gravel road, 0.7 mile west on woods road, 0.2 mile north on field road, and 60 feet south of woods in northwest corner of field; NW1/4SE1/4 sec. 5, T. 7 S., R. 15 W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; common fine and medium roots; slightly acid; clear smooth boundary.

A2—4 to 11 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; few fine and medium roots; slightly acid; clear smooth boundary.

B21t—11 to 35 inches; red (2.5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; thin patchy clay films on faces of peds; sand grains coated and bridged with clay; medium acid; clear wavy boundary.

B22t—35 to 57 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of peds; sand grains coated and bridged with clay; medium acid; gradual irregular boundary.

B23t&A'2—57 to 67 inches; red (2.5YR 4/8) sandy loam; few fine distinct light yellowish brown (10YR 6/4) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; pockets of brown (10YR 5/3) sandy loam A'2 material makes up about 15 percent of the horizon; strongly acid; gradual irregular boundary.

B'2t—67 to 84 inches; red (2.5YR 4/8) sandy clay loam; few fine distinct brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; friable; thin patchy clay films on faces of peds; sand grains coated and bridged with clay; strongly acid.

Reaction of the A horizon ranges from slighty acid to strongly acid. Reaction of the B horizon ranges from medium acid to very strongly acid.

The A horizon is grayish brown, dark grayish brown, brown, dark brown, or yellowish brown. The B2t horizon is yellowish red or red. Texture is loam, sandy clay loam, or clay loam, and the clay content in the upper 20 inches ranges from 20 to 30 percent. The B23t&A'2 horizon has similar colors to those of the B2t horizon, but the A'2 material is paler. Texture is sandy loam or fine sandy loam. The B't horizon has the same range in color and texture as the B2t horizon but includes strong brown, yellowish brown, and brownish yellow mottles.

Saucier series

The Saucier series consists of moderately well drained upland soils that formed in a thin mantle of loamy materials and the underlying clayey materials. Slopes range from 0 to 12 percent.

Saucier soils are associated with Malbis, Poarch, Rosebloom, and Susquehanna soils. Saucier soils have finer textures in the lower part of the Bt horizon than Malbis and Poarch soils and have gray mottles in the upper 30 inches. Saucier soils are better drained than Rosebloom soils and lack the dominantly gray upper part of the subsoil. Saucier soils are more loamy and less clayey in the upper part of the Bt horizon than Susquehanna soils, and they contain more than 5 percent plinthite nodules.

Typical pedon of Saucier fine sandy loam, 0 to 2 percent slopes, in woodland, about 0.7 mile east of Mississippi Highway 603 along the Kiln-DeLisle Road, and 70 feet south of roadway; NW1/4SW1/4 sec. 38, T. 7 S., R. 14 W.

A1—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; common fine faint dark yellowish brown mottles; weak fine granular structure; friable; common fine roots; strongly acid; clear wavy boundary.

A2—5 to 9 inches; pale brown (10YR 6/3) fine sandy loam; few fine faint yellowish brown and grayish brown mottles; weak fine granular structure; friable; few fine roots; many fine channels or tunnels filled with material like horizon above; strongly acid; clear wavy boundary.

B21t—9 to 17 inches; yellowish brown (10YR 5/6) loam; common fine faint strong brown mottles; weak fine and medium subangular and angular blocky structure; friable; few fine and medium roots; strong brown areas have higher clay content; clay coating and bridging of sand grains; very strongly acid; clear wavy boundary.

B22t—17 to 26 inches; mottled yellowish brown (10YR 5/6), pale brown (10YR 6/3), light brownish gray (10YR 6/2), yellowish red (5YR 4/6), and red (2.5YR 4/6) loam; weak fine and medium subangular and angular blocky structure; friable; few fine roots; about 1 percent plinthite nodules; clay coating and bridging of sand grains; very strongly acid; clear wavy boundary.

B23t—26 to 40 inches; mottled yellowish brown (10YR 5/6), red (10R 4/6), gray (10YR 6/1), and yellowish red (5YR 4/8) loam; moderate medium and coarse angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; 6 percent plinthite nodules; clay films on faces of peds and in holes; very strongly acid; gradual wavy boundary.

B24t—40 to 47 inches; yellowish brown (10YR 5/6) clay loam; common coarse distinct light gray (10YR 7/1),

common medium prominent dark red (2.5YR 3/6), and medium faint pale brown (10YR 6/3) mottles; moderate medium and coarse angular and subangular blocky structure; firm, slightly plastic and slightly sticky; few fine roots; clay films on faces of peds and in holes; very strongly acid; gradual wavy boundary.

IIB25t—47 to 60 inches; mottled yellowish brown (10YR 5/6), light yellowish brown (10YR 6/4), light gray (10YR 7/1), and red (10R 4/6) clay; weak medium and coarse angular and subangular blocky structure; firm, plastic and sticky; few fine roots; clay films on faces of peds and in holes; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile.

Solum thickness ranges from 60 to more than 80 inches. Horizons with 5 to 10 percent plinthite occur between 20 and 45 inches. The A1 and Ap horizons are very dark grayish brown or dark grayish brown. Some pedons have an A2 horizon of pale brown or grayish brown.

The B21t horizon is yellowish brown, brownish yellow, or light olive brown. The B22t, B23t, and B24t horizons have colors similar to those of the B21t horizon or are mottled in shades of brown, red, and gray. Grayish mottles are within 30 inches of the surface. Texture of the upper B2t horizon is loam or clay loam. The IIBt horizon is mottled in colors of brown, gray, and red. Texture is clay loam, silty clay loam, silty clay, or clay.

Smithdale series

The Smithdale series consists of well drained soils that formed in loamy material on uplands. Slopes range from 8 to 17 percent.

Smithdale soils are associated with Lucedale, McLaurin, and Ruston soils. Smithdale soils are sandier in the lower part of the B horizon than Lucedale soils and are less red in the upper part. Smithdale soils are finer textured in the upper part of the B horizon than McLaurin soils and sandier in the lower part than the Ruston soils.

Typical pedon of Smithdale fine sandy loam, 8 to 12 percent slopes, in a loblolly pine plantation 2 miles northwest of Dedeaux, along Dedeaux and Standard paved road, 0.7 mile north on gravel road, 0.4 mile northeast on woods road and 200 feet southeast of woods road; NE1/4SE1/4 sec. 12, T. 6 S., R. 14 W.

A1—0 to 7 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

A2—7 to 12 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; friable; common fine and medium roots; strongly acid; gradual wavy boundary.

B21t—12 to 32 inches; yellowish red (5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B22t—32 to 46 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; few small quartz pebbles; clay films on faces of peds; very strongly acid; gradual smooth boundary.

B23t—46 to 60 inches; red (2.5YR 4/8) sandy loam; common medium distinct yellowish red (5YR 4/6) and few fine distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; few small pockets of uncoated sand grains; sand grains coated and bridged with clay; strongly acid; gradual smooth boundary.

B24t—60 to 80 inches; red (2.5YR 4/8) sandy loam; few fine distinct reddish yellow mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few small pockets of uncoated sand grains; strongly acid.

In unlimed areas reaction is strongly acid or very strongly acid throughout the profile.

The A horizon is dark grayish brown, dark brown, or yellowish brown. The B21t and B22t horizons are yellowish red or red. Texture is sandy clay loam, clay loam, or loam. The upper 20 inches of the B2t horizon is 18 to 33 percent clay. The B23t and B24t horizons are yellowish red or red mottled in shades of red, yellow, and brown. Texture is sandy loam or loam.

Smithton series

The Smithton series consists of poorly drained soils that formed in loamy materials on wet flats, in drainageways, and on stream terraces. Slopes range from 0 to 2 percent.

Smithton soils are associated with Atmore, Escambia, and Guyton soils. Atmore and Escambia soils have a horizon in the upper 60 inches which contains over 5 percent plinthite nodules, but the Smithton soils do not. Also, Smithton soils are more gray and less brown in the upper part of the Bt horizon than the Escambia soils and less clayey than Guyton soils.

Typical pedon of Smithton fine sandy loam, occasionally flooded, in woodland 700 feet north of U.S. Highway 90, along Mississippi Highway 603, then 250 feet northeast of roadway; NE1/4NE1/4 sec. 34, T. 8 S., R. 14 W.

A1—0 to 2 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; few fine pockets of uncoated sand grains; very strongly acid; clear smooth boundary.

A2g—2 to 8 inches; grayish brown (10YR 5/2) fine sandy loam; weak fine granular structure; very friable; few fine roots; common fine pockets of uncoated sand grains; very strongly acid; clear smooth boundary.

B1g—8 to 21 inches; light brownish gray (10YR 6/2) fine sandy loam; common fine dark yellowish brown mottles; weak fine subangular blocky structure; very friable; few fine roots; few fine pockets of uncoated sand grains; strongly acid; gradual wavy boundary.

B21tg—21 to 30 inches; light brownish gray (10YR 6/2) fine sandy loam; common coarse yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; strong brown coatings in root channels; clay coating and bridging of sand grains; very strongly acid; gradual wavy boundary.

B22tg—30 to 49 inches; light brownish gray (10YR 6/2) fine sandy loam; common medium yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; clay coating and bridging of sand grains; very strongly acid; gradual wavy boundary.

B23tg—49 to 60 inches; gray (10YR 6/1) fine sandy loam; many coarse yellowish brown (10YR 5/8) and common medium yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable; few fine roots; clay coating and bridging of sand grains; very strongly acid.

In unlimed areas, reaction is strongly or very strongly acid throughout the profile.

The A1 horizon is very dark grayish brown or dark grayish brown, and it is mottled in shades of brown in some profiles. The A2 horizon is gray, grayish brown, or light brownish gray. The upper part of the B horizon is light brownish gray or gray mottled in shades of brown. The lower part is gray or light brownish gray mottled in shades of brown. Texture of the B horizon is fine sandy loam or loam.

Susquehanna series

The Susquehanna series consists of somewhat poorly drained soils that formed in clayey materials on uplands. Slopes range from 2 to 12 percent.

Susquehanna soils are associated with Arkabutla, Malbis, and Saucier soils. Susquehanna soils are more clayey and less silty in the B horizon than Arkabutla soils, more clayey and less loamy throughout the Bt horizon than Malbis soils; and are more clayey and less loamy in the upper part of the Bt horizon than Saucier soils.

Typical pedon of Susquehanna fine sandy loam in a wooded area of Saucier-Susquehanna complex, 2 to 5 percent slopes, 0.6 mile north of intersection of Mississippi Highway 603 and Standard Road, then 650 feet east of pavement; NW1/4NW1/4 sec. 5, T. 6 S., R. 14 W.

A1—0 to 3 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; common medium and fine roots; strongly acid; clear irregular boundary.

A2—3 to 7 inches; yellowish brown (10YR 5/6) fine sandy loam; common fine distinct yellowish red and dark grayish brown mottles; weak fine granular structure; friable; common medium and fine roots; few grayish worm casts; strongly acid; clear wavy boundary.

B21t—7 to 11 inches; red (2.5YR 4/8) clay loam; many medium distinct light brownish gray (10YR 6/2) mottles; moderate medium and coarse subangular and angular blocky structure; firm, plastic and sticky; few fine roots; few fine quartz pebbles; shiny, grooved faces on peds; few slickensides; very strongly acid; clear wavy boundary.

B22t—11 to 23 inches; mottled red (2.5YR 4/6); strong brown (7.5YR 5/6) and light gray (5Y 7/2) clay; moderate medium and coarse angular blocky structure; firm, plastic and sticky; few fine roots; shiny, grooved faces on peds; few slickensides; few fine quartz pebbles; very strongly acid; gradual wavy boundary.

B23t—23 to 42 inches; mottled red (10R 4/8); yellowish brown (10YR 5/6) and light gray (5Y 7/2) clay; moderate medium and coarse angular blocky structure; firm, plastic and sticky; shiny, grooved faces on peds; few slickensides; very strongly acid; gradual wavy boundary.

B24tg—42 to 60 inches; light gray (5Y 7/2) clay; common medium prominent red (10R 4/8), few fine distinct strong brown, and few fine faint pale olive mottles; moderate medium and coarse angular blocky structure; firm, plastic and sticky; few slickensides that do not intersect; patchy clay films on faces of peds; very strongly acid.

In unlimed areas, reaction is strongly acid or very strongly acid throughout the profile. Base saturation ranges from 35 to 55 percent at 50 inches below the top of the argillic horizon.

The A1 horizon is very dark gray, dark gray, or dark grayish brown. The Ap and A2 horizons are dark grayish brown, dark brown, yellowish brown, dark yellowish brown, or brown. The upper part of the Bt horizon is red or yellowish red. Few to many grayish mottles occur in the upper 10 inches of the Bt horizon, or it is mottled in shades of gray, red, and yellow. The lower part of the Bt horizon has gray matrix colors or is mottled in shades of gray, red, brown, and yellow. Texture of the Bt horizon is clay or clay loam.

Trebloc series

The Trebloc series consists of poorly drained soils that formed in silty material on broad wet flats and in drainageways. Slopes range from 0 to 2 percent.

Trebloc soils are associated with Beauregard, Guyton, and Harleston soils. Trebloc soils are more poorly drained, have more gray and less brown in the upper part of the Bt horizon, and contain less plinthite than

Beauregard soils. They have less base saturation in the lower part of the Bt horizon than the Guyton soils. Trebloc soils are more poorly drained, are more clayey, and are more gray and less brown than Harleston soils.

Typical pedon of Trebloc silt loam in a wooded area of Trebloc association, frequently flooded, 5.8 miles east of East Pearl River Bridge along U.S. Highway 90, then 1.2 miles south along woods road, then 25 feet west of roadway; NW1/4NE1/4 sec. 18, T. 9 S., R. 15 W.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.

A2—2 to 6 inches; grayish brown (10YR 5/2) silt loam; few fine distinct yellowish brown and light gray mottles; weak fine granular structure; friable; common fine roots; very strongly acid; clear smooth boundary.

B21tg—6 to 16 inches; light brownish gray (10YR 6/2) silt loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak fine and medium angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; thin patchy clay films on faces of peds; very strongly acid; clear smooth boundary.

B22tg—16 to 21 inches; light brownish gray (10YR 6/2) silty clay loam; common fine distinct dark yellowish brown and yellowish brown mottles; weak fine and medium angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; thin patchy clay films on faces of peds; very strongly acid; clear wavy boundary.

B23tg—21 to 32 inches; light brownish gray (10YR 6/2) silty clay loam; common medium distinct brownish yellow (10YR 6/6) and few fine distinct dark brown mottles; weak fine and medium angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; thin patchy clay films on faces of peds; very strongly acid; clear wavy boundary.

B24tg—32 to 42 inches; light brownish gray (10YR 6/2) silty clay loam; many medium distinct yellowish brown (10YR 5/4) and common medium distinct dark yellowish brown (10YR 4/4) mottles; weak fine and medium angular and subangular blocky structure; friable, slightly plastic and slightly sticky; few fine roots; thin patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

B25tg—42 to 53 inches; light brownish gray (10YR 6/2) silty clay loam; many coarse distinct yellowish brown (10YR 5/6) and common medium distinct yellowish brown (10YR 5/8) mottles; weak fine and medium angular and subangular blocky structure; firm, plastic and sticky; few fine roots; thin patchy clay films on faces of peds; very strongly acid; gradual wavy boundary.

B26t—53 to 60 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6) and strong brown (7.5YR 5/8) silty clay loam; few fine distinct dark brown mottles; weak fine and medium angular and subangular blocky structure; firm, plastic and sticky; few fine roots; thin patchy clay films on faces of peds; very strongly acid.

Reaction is strongly or very strongly acid throughout the profile.

The A1 horizon is dark gray or dark grayish brown. The upper part of the B2t horizon is gray, light brownish gray, grayish brown, or dark grayish brown. Mottles in shades of yellow and brown range from few to many. The lower part of the B2t horizon is mottled in shades of brown and gray or has colors similar to the upper part of the B2t horizon. Texture of the B2t horizon is silt loam or silty clay loam.

formation of the soils

In this section the factors of soil formation are discussed and related to the soils of Hancock County. In addition, the processes of soil formation are described.

factors of soil formation

Soil is the product of the combined effects of parent material, climate, plant and animal life, relief, and time (*7*). The characteristics of a soil at any place depend upon a combination of these five environmental factors at that particular place. All of these factors affect the formation of every soil. In many places, however, one or two of the factors are dominant in forming the properties of a particular soil.

parent material

Parent material is the unconsolidated geologic material in which a soil develops. It largely determines the chemical and mineral composition of the soils. Most of the soils in Hancock County formed in unconsolidated beds of fine-textured to coarse textured Coastal Plain sediments (*3*). Some soils formed in alluvium; others formed in deposits of highly decomposed herbaceous plant remains adjoining saltwater or brackish water that are periodically flooded by high tides. Beaches were deposited by the action of the tides, waves, and currents of the sea or by hydraulic dredges.

The bright colored soils of Hancock County developed from material that was above the ground water level and was subjected to the influence of water that percolated through it from the surface. The grayish soils formed in low, flat areas where the water table is high and the drainage is poor.

Soils that formed in place from Coastal Plain sediments are throughout the county. These sediments consist of sand, silt, and clay. Slopes are nearly level through moderately steep.

Soils that formed in alluvium washed from upland soils are along the larger streams. They are dominantly of sandy texture. Soils on first bottoms have a weakly defined profile because floodwaters continue to deposit fresh soil material.

Soils that formed in organic materials are in the tidal marshes, where areas of soil at low elevation adjoin areas of brackish saltwater. These soils are still being formed, as the grassy vegetation of the area decomposes and the more fibrous organic material is deposited. The reaction and content of soluble salts in these soils are about the same as in seawater. Subsequent flooding does not completely remove the concentration of salts and bases produced by the evaporation of tidewater.

climate

The warm, moist climate of Hancock County has favored rapid development of soils. Warm temperatures accelerate the growth of many kinds of organisms. Chemical reactions are more rapid, and the relatively high precipitation leaches the soluble material, such as bases, and accelerates the translocation of less soluble material, such as colloidal matter, downward through the profile. As a result, the soils are strongly leached and have strongly expressed horizons in which the effects of other soil forming factors are not easy to see. For more information about the climate of Hancock County, see the section "General nature of the county."

plant and animal life

Plants, animals, and micro-organisms that live on and in the soil are important in the formation of soils. Bacteria, fungi, and other micro-organisms help break down and decompose organic matter. They are mostly in the uppermost few inches of the soil. Earthworms and other small invertebrates are mostly in the surface layer. Crayfish dig into the subsoil of the wetter soils. Together, they continually mix the soil material. Plants alter the soil microclimate, supply organic matter, and transfer minerals from the subsoil to the surface layer.

The native trees of the well drained uplands are mainly longleaf and slash pines. On the broad wet flats are mainly loblolly and slash pines, sweetgum, and sweetbay. The better drained bottom lands have mainly loblolly, slash, and spruce pines; oaks; magnolia; holly; and beech. Native plants in old sloughs and depressional areas include tupelo, sweetgum, cypress, sweetbay, and magnolia trees.

relief

In Hancock County the relief is of such low intensity that differences in microclimate are not of great importance. Soils of north slopes are similar to soils of south slopes. Soils on many side slopes are not much different from soils on ridgetops. The southern part of the county is low and mostly nearly level and is known locally as the flatwoods. The drainage is very poor, and

runoff is very slow. During the wet seasons the lower, flat areas have water at the surface.

Toward the northern part of the county the elevation gradually increases and culminates in a series of ridges. The upland parts of the county are much better drained than the flatwoods. The relief is greater and the streams have developed definite valleys. The soils in the upland parts of the county have more clearly expressed horizons than those in the flatwoods. The soils of the ridgetops and slopes have less organic matter in the surface layer and have been more affected by iron oxidation and by translocation of silicate clay minerals than associated soils at the base of slopes and in draws and depressions.

time

Time is necessary for the development of soils from parent material. A long time is generally required for the formation of distinct horizons in soils. The length of time required for a mature soil to develop depends largely on the other factors of soil formation. Young soils have a weakly developed profile and retain most of the characteristics of the parent material except for the darkening of the surface layer. Old soils have well defined horizons that are far removed from the parent material from which they developed.

In Hancock County, the flatwoods date from the Pleistocene epoch, and the upper part of the Coastal Plain dates from the Miocene.

processes of horizon formation

Several processes were involved in the formation of horizons in the soils of Hancock County. These processes are accumulation of organic matter; leaching of calcium carbonates and bases; the liberation, reduction, and transfer of iron; and formation and translocation of silicate clay minerals. In most soils more than one of these processes have been active in the development of horizons.

Accumulation of organic matter in the upper part of the soil profile contributes to the formation of an A1 horizon. The soils in Hancock County have low organic matter content on well drained uplands and high organic matter content in the salt marshes.

Carbonates and bases have been leached from nearly all the soils. Most are moderately to strongly leached. Leaching of bases from the upper horizons of a soil commonly precedes the translocation of silicate clay.

Translocation of silicate clay has occurred in many of the soils. Translocation of clay minerals contributes to the development of an eluviated A2 horizon that contains less clay and is generally lighter in color than the B horizon. The B horizon commonly has clay accumulated in films, in pores, and on the surface of peds. Saucier soils, for example, have films of translocated clay in the B horizon.

Reduction, segregation, and transfer of iron—a process called gleying—is evident in the poorly drained soils of the county. Reduction and loss of iron are indicated by gray colors in the subsoil. Segregation of iron is indicated by reddish or brownish mottles and concretions.

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glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly such soil formed in recent alluvium or on steep rocky slopes.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Medium	6 to 9
High	9 to 12
Very high	More than 12

Base saturation. The degree to which material having cation exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Broad-base terrace. A ridge-type terrace built to control erosion by diverting runoff along the contour at a nonscouring velocity. The terrace is 10 to 20 inches high and 15 to 30 feet wide and has gently sloping sides, a rounded crown, and a dish-shaped channel along the upper side. It may be nearly level or have a grade toward one or both ends.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity, but is more precise in meaning.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse textured soil. Sand or loamy sand.

Coastal plain. Upland areas formed in sediments deposited by ancient seas that invaded the margin of the continent.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping (or contour farming). Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fine textured soil. Sandy clay, silty clay, and clay.

Flatwoods. A local name for the distinctively low, relatively flat area of the south, south-central, and southwest parts of the county, which generally lies 5 to 30 feet above sea level.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Forb. Any herbaceous plant not a grass or a sedge.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.5 centimeters) in diameter. An individual piece is a pebble.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual*. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Roman numeral II precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous areas. Areas that have little or no natural soil and support little or no vegetation.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affecting the specified use.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.20 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Productivity, soil The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Relief. The elevations or inequalities of a land surface, considered collectively.

Root zone. The part of the soil that can be penetrated by plant roots.

Row arrangement. A system of crop rows of planned grade and length established primarily for erosion control and water management.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 mm in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Subsurface layer. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Surface drainage field ditch. A shallow ditch to remove excess surface water.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that it can soak into the soil or flow slowly to a prepared outlet without harm. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt, silt loam, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tidal marsh. A low, flat, treeless tract of land flooded with seawater by the action of tides and characterized by a luxuriant growth of salt tolerant grasses and similar plants.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[Recorded 1951-73 at Bay Saint Louis, Miss.]

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days[1]	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	59.1	41.4	50.3	75	20	135	5.00	2.64	6.93	7	0.5
February---	62.0	43.8	52.9	78	22	175	4.74	2.87	6.41	6	.1
March------	67.8	49.6	58.7	82	31	291	4.97	1.87	7.45	6	.0
April------	75.7	60.1	67.9	87	39	537	5.22	1.89	7.89	5	.0
May--------	82.7	66.3	74.5	93	48	760	3.97	1.59	5.89	4	.0
June-------	88.4	72.1	80.3	97	60	909	3.91	1.68	5.72	6	.0
July-------	89.8	74.0	81.9	99	68	989	5.55	3.79	7.15	8	.0
August-----	89.8	73.4	81.6	98	65	980	6.07	2.56	8.92	8	.0
September--	86.2	69.8	78.0	95	55	840	6.38	2.34	9.63	7	.0
October----	79.0	58.7	68.9	90	38	586	2.42	.35	4.05	3	.0
November---	68.1	49.0	58.6	82	29	269	3.35	1.16	5.10	4	.0
December---	61.7	43.3	52.5	78	22	155	5.31	3.04	7.15	6	.1
Yearly:											
Average--	75.9	58.5	67.2	---	---	---	---	---	---	---	---
Extreme--	---	---	---	100	18	---	---	---	---	---	---
Total----	---	---	---	---	---	6,626	56.89	45.86	67.34	70	0.7

[1]A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50° F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

[Recorded 1951-73 at Bay Saint Louis, Miss.]

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	February 10	March 8	April 21
2 years in 10 later than--	February 1	February 24	March 10
5 years in 10 later than--	January 7	January 31	February 16
First freezing temperature in fall:			
1 year in 10 earlier than--	December 23	November 19	November 6
2 years in 10 earlier than--	January 3	November 28	November 16
5 years in 10 earlier than--	February 8	December 17	December 5

TABLE 3.--GROWING SEASON

[Recorded 1951-73 at Bay Saint Louis, Miss.]

Probability	Daily minimum temperature during growing season		
	Higher than 24°F	Higher than 28°F	Higher than 32°F
	Days	Days	Days
9 years in 10	340	272	250
8 years in 10	>365	287	264
5 years in 10	>365	319	290
2 years in 10	>365	364	317
1 year in 10	>365	>365	330

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AR	Arkabutla-Rosebloom association, frequently flooded	7,186	2.3
At	Atmore silt loam	32,697	10.5
Ba	Beaches	296	0.1
Be	Beauregard silt loam	9,592	3.1
Bg	Bigbee-Bibb complex, frequently flooded	7,462	2.4
Bo	Bohicket silty clay	920	0.3
EsA	Escambia loam, 0 to 2 percent slopes	13,331	4.3
EsB	Escambia loam, 2 to 5 percent slopes	8,287	2.7
EuB	Eustis loamy fine sand, 2 to 5 percent slopes	2,367	0.8
Gu	Guyton silt loam	10,604	3.4
HA	Handsboro association	13,139	4.2
HlA	Harleston fine sandy loam, 0 to 2 percent slopes	16,265	5.2
HlB	Harleston fine sandy loam, 2 to 5 percent slopes	7,095	2.3
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes	968	0.3
MaA	Malbis fine sandy loam, 0 to 2 percent slopes	1,284	0.4
MaB	Malbis fine sandy loam, 2 to 5 percent slopes	3,649	1.2
MaC	Malbis fine sandy loam, 5 to 8 percent slopes	1,569	0.5
McB	McLaurin fine sandy loam, 2 to 5 percent slopes	4,843	1.6
McC	McLaurin fine sandy loam, 5 to 8 percent slopes	2,845	0.9
Oc	Ocilla loamy sand	2,354	0.8
Pa	Pits	415	0.1
Pe	Plummer loamy sand	3,109	1.0
PoA	Poarch fine sandy loam, 0 to 2 percent slopes	6,871	2.2
PoB	Poarch fine sandy loam, 2 to 5 percent slopes	35,006	11.3
PoC	Poarch fine sandy loam, 5 to 8 percent slopes	12,274	4.0
PoD	Poarch fine sandy loam, 8 to 12 percent slopes	6,524	2.1
RuA	Ruston fine sandy loam, 0 to 2 percent slopes	1,345	0.4
RuB	Ruston fine sandy loam, 2 to 5 percent slopes	2,803	0.9
RuC	Ruston fine sandy loam, 5 to 8 percent slopes	1,754	0.6
SaA	Saucier fine sandy loam, 0 to 2 percent slopes	3,170	1.0
SaB	Saucier fine sandy loam, 2 to 5 percent slopes	10,897	3.5
SaC	Saucier fine sandy loam, 5 to 8 percent slopes	7,512	2.4
SaD	Saucier fine sandy loam, 8 to 12 percent slopes	3,232	1.0
ScB	Saucier-Susquehanna complex, 2 to 5 percent slopes	2,069	0.7
ScD	Saucier-Susquehanna complex, 5 to 12 percent slopes	5,942	1.9
SmD	Smithdale fine sandy loam, 8 to 12 percent slopes	3,690	1.2
SmE	Smithdale fine sandy loam, 12 to 17 percent slopes	2,528	0.8
St	Smithton fine sandy loam, occasionally flooded	7,166	2.3
Su	Smithton fine sandy loam, frequently flooded	20,200	6.5
SW	Smithton association, frequently flooded	16,907	5.5
Sx	Sulfaquepts, sandy	1,907	0.6
TR	Trebloc association, frequently flooded	2,426	0.8
W	Water	5,900	1.9
	Total	310,400	100.0

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Corn	Soybeans	Bahiagrass	Improved bermudagrass
	Bu	Bu	AUM[1]	AUM[1]
AR:[2] Arkabutla	---	---	---	---
Rosebloom	---	---	---	---
At---Atmore	40	20	6.0	---
Ba.[2] Beaches				
Be---Beauregard	65	25	7.0	9.0
Bg---Bigbee-Bibb	---	---	---	---
Bo---Bohicket	---	---	---	---
EsA---Escambia	100	30	9.0	9.0
EsB---Escambia	95	25	8.5	9.0
EuB---Eustis	60	25	6.5	7.0
Gu---Guyton	---	23	9.5	---
HA[2]---Handsboro	---	---	---	---
HlA---Harleston	90	35	9.0	11.0
HlB---Harleston	85	30	8.5	10.5
LuA---Lucedale	80	40	10.0	10.0
MaA---Malbis	100	40	9.0	10.0
MaB---Malbis	95	37	8.5	9.5
MaC---Malbis	80	30	8.0	9.0
McB---McLaurin	75	25	8.0	10.0
McC---McLaurin	70	25	7.0	8.5
Oc---Ocilla	70	35	7.5	8.5
Pa.[2] Pits				

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map symbol and soil name	Corn	Soybeans	Bahiagrass	Improved bermudagrass
	Bu	Bu	AUM[1]	AUM[1]
Pe---------- Plummer	---	---	5.0	6.0
PoA---------- Poarch	90	30	9.5	5.5
PoB---------- Poarch	80	25	9.5	5.5
PoC---------- Poarch	65	25	8.5	5.0
PoD---------- Poarch	---	---	7.5	4.5
RuA---------- Ruston	75	30	9.5	12.5
RuB---------- Ruston	70	30	9.5	12.0
RuC---------- Ruston	65	25	9.5	12.0
SaA---------- Saucier	90	35	9.0	9.0
SaB---------- Saucier	85	30	8.5	9.0
SaC---------- Saucier	75	25	8.0	8.5
SaD---------- Saucier	---	---	7.5	8.5
ScB---------- Saucier-Susquehanna	75	27	7.8	8.5
ScD---------- Saucier-Susquehanna	---	---	7.1	8.0
SmD---------- Smithdale	50	25	7.5	9.0
SmE---------- Smithdale	---	---	7.0	9.0
St---------- Smithton	---	25	7.5	---
Su, SW[2]---------- Smithton	---	---	---	---
Sx.[2] Sulfaquepts				
TR[2]---------- Trebloc	---	---	---	---

[1] Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.
[2] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 6.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas are excluded. Absence of an entry indicates no acreage]

Class	Total acreage	Major management concerns (Subclass)			
		Erosion (e)	Wetness (w)	Soil problem (s)	Climate (c)
		Acres	Acres	Acres	Acres
I	10,468	---	---	---	---
II	114,938	72,580	42,358	---	---
III	73,976	25,954	45,655	2,367	---
IV	25,790	15,515	10,275	---	---
V	54,181	---	54,181	---	---
VI	8,470	8,470	---	---	---
VII	---	---	---	---	---
VIII	14,059	---	14,059	---	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
AR:[1]								
Arkabutla	1w8	Slight	Severe	Moderate	Moderate	Cherrybark oak	105	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, American sycamore, yellow-poplar, slash pine.
						Eastern cottonwood	110	
						Green ash	95	
						Loblolly pine	100	
						Nuttall oak	110	
						Sweetgum	100	
						Water oak	100	
						Yellow-poplar	110	
						Slash pine	---	
Rosebloom	2w9	Slight	Severe	Moderate	Moderate	Green ash	95	Green ash,[2] eastern cottonwood, cherrybark oak, Nuttall oak, water oak, willow oak, loblolly pine,[2] sweetgum,[2] baldcypress.
						Eastern cottonwood	100	
						Cherrybark oak	95	
						Nuttall oak	95	
						Water oak	95	
						Willow oak	90	
						Sweetgum	95	
						American sycamore	80	
						Baldcypress	---	
						Tupelos	---	
At Atmore	3w9	Slight	Moderate	Slight	Moderate	Loblolly pine	85	Loblolly pine,[2] slash pine.[2]
						Slash pine	85	
						Longleaf pine	73	
						Sweetgum	85	
						Tupelos	---	
						Baldcypress	---	
Be Beauregard	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine	92	Loblolly pine, slash pine.
						Slash pine	---	
						Longleaf pine	---	
						Sweetgum	---	
Bg:[1]								
Bigbee	2s8	Slight	Moderate	Moderate	Slight	Loblolly pine	88	Loblolly pine, yellow-poplar, spruce pine.
						Yellow-poplar	---	
Bibb	2w9	Slight	Severe	Severe	Severe	Loblolly pine	90	Loblolly pine,[2] sweetgum,[2] slash pine,[2] green ash.[2]
						Sweetgum	90	
						Water oak	90	
						Willow oak	---	
						Slash pine	---	
EsA, EsB Escambia	2w8	Slight	Moderate	Slight	Slight	Loblolly pine	90	Loblolly pine, slash pine.
						Longleaf pine	80	
						Slash pine	90	
						Sweetgum	90	
EuB Eustis	3s3	Slight	Moderate	Moderate	Moderate	Slash pine	80	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	80	
						Longleaf pine	65	
Gu Guyton	2w9	Slight	Severe	Moderate	Moderate	Loblolly pine	90	Loblolly pine, sweetgum, slash pine,[2] green ash.[2]
						Slash pine	90	
						Sweetgum	---	
						Green ash	---	
						Southern red oak	---	
						Water oak	---	
HlA, HlB Harleston	2w8	Slight	Moderate	Slight	Slight	Loblolly pine	90	Loblolly pine, slash pine.
						Shortleaf pine	80	
						Sweetgum	75	
						Longleaf pine	75	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
LuA---------- Lucedale	2o1	Slight	Slight	Slight	Slight	Loblolly pine--------- Longleaf pine--------- Slash pine---------- White oak----------	90 75 90 ---	Loblolly pine, slash pine.
MaA, MaB, MaC------ Malbis	2o1	Slight	Slight	Slight	Slight	Loblolly pine--------- Slash pine---------- Longleaf pine--------- White oak----------	90 90 80 ---	Loblolly pine, slash pine.
McB, McC---------- McLaurin	2o1	Slight	Slight	Slight	Slight	Loblolly pine--------- Longleaf pine--------- Slash pine---------- White oak----------	90 72 90 ---	Loblolly pine, slash pine.
Oc---------- Ocilla	3w2	Slight	Moderate	Moderate	--------	Loblolly pine--------- Slash pine---------- Longleaf pine---------	79 80 68	Loblolly pine, slash pine.
Pe---------- Plummer	2w3	Slight	Severe	Severe	--------	Slash pine---------- Loblolly pine--------- Longleaf pine---------	88 91 70	Loblolly pine,[2] slash pine.[2]
PoA, PoB, PoC, PoD- Poarch	2o1	Slight	Slight	Slight	Slight	Slash pine---------- Loblolly pine--------- Longleaf pine--------- White oak----------	90 90 73 ---	Slash pine, loblolly pine, longleaf pine.
RuA, RuB, RuC------ Ruston	2o1	Slight	Slight	Slight	--------	Loblolly pine--------- Slash pine---------- Longleaf pine--------- White oak----------	91 91 76 ---	Loblolly pine, slash pine, longleaf pine.
SaA, SaB, SaC, SaD- Saucier	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine--------- Longleaf pine--------- Slash pine---------- Sweetgum----------	86 70 86 ---	Loblolly pine, slash pine.
ScB,[1] ScD:[1] Saucier----------	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine--------- Longleaf pine--------- Slash pine---------- Sweetgum----------	86 70 86 ---	Loblolly pine, slash pine.
Susquehanna-------	3c2	Slight	Moderate	Slight	Moderate	Loblolly pine--------- Shortleaf pine------- Longleaf pine--------- Slash pine----------	78 68 70 85	Loblolly pine, shortleaf pine, longleaf pine, slash pine.
SmD, SmE---------- Smithdale	2o1	Slight	Slight	Slight	Moderate	Loblolly pine--------- Longleaf pine--------- Slash pine----------	86 69 85	Loblolly pine, longleaf pine, slash pine.
St, Su, SW[1]-------- Smithton	2w9	Slight	Severe	Severe	--------	Loblolly pine--------- Shortleaf pine------- Slash pine---------- Sweetgum---------- Cherrybark oak------ Water oak----------	90 80 90 90 90 90	Loblolly pine,[2] slash pine.[2]
TR[1]---------- Trebloc	2w9	Slight	Severe	Severe	Moderate	Loblolly pine--------- Sweetgum---------- Water oak---------- Willow oak---------- Slash pine----------	95 90 85 80 90	Loblolly pine,[2] sweetgum,[2] slash pine.[2]

[1] See description of the map unit for composition and behavior characteristics of the map unit.
[2] Tree planting is feasible only on areas with adequate surface drainage.

TABLE 8.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
AR:[1]				
Arkabutla	Severe: floods, wetness.	Moderate: floods, wetness.	Severe: floods.	Moderate: floods, wetness.
Rosebloom	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
At Atmore	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ba.[1] Beaches				
Be Beauregard	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness, percs slowly.	Slight.
Bg:[1]				
Bigbee	Severe: floods.	Moderate: floods, too sandy.	Severe: floods.	Moderate: floods, too sandy.
Bibb	Severe: floods, wetness.	Severe: wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Bo Bohicket	Severe: floods, too clayey, wetness.	Severe: floods, too clayey, wetness.	Severe: floods, too clayey, wetness.	Severe: floods, too clayey, wetness.
EsA Escambia	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness, percs slowly.	Slight.
EsB Escambia	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness, percs slowly, slope.	Slight.
EuB Eustis	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, soil blowing.	Moderate: too sandy.
Gu Guyton	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
HA[1] Handsboro	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, wetness, excess humus.	Severe: floods, wetness, excess humus.
HlA Harleston	Slight	Slight	Slight	Slight.
HlB Harleston	Slight	Slight	Moderate: slope.	Slight.
LuA Lucedale	Slight	Slight	Slight	Slight.
MaA Malbis	Slight	Slight	Slight	Slight.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
MaB---- Malbis	Slight----	Slight----	Moderate: slope.	Slight.
MaC---- Malbis	Slight----	Slight----	Severe: slope.	Slight.
McB---- McLaurin	Slight----	Slight----	Moderate: slope.	Slight.
McC---- McLaurin	Slight----	Slight----	Severe: slope.	Slight.
Oc---- Ocilla	Moderate: wetness, too sandy.	Moderate: wetness.	Moderate: wetness, too sandy.	Moderate: wetness.
Pa.[1] Pits				
Pe---- Plummer	Severe: floods, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
PoA---- Poarch	Slight----	Slight----	Slight----	Slight.
PoB---- Poarch	Slight----	Slight----	Moderate: slope.	Slight.
PoC---- Poarch	Slight----	Slight----	Severe: slope.	Slight.
PoD---- Poarch	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
RuA---- Ruston	Slight----	Slight----	Slight----	Slight.
RuB---- Ruston	Slight----	Slight----	Moderate: slope.	Slight.
RuC---- Ruston	Slight----	Slight----	Severe: slope.	Slight.
SaA---- Saucier	Slight----	Slight----	Slight----	Slight.
SaB---- Saucier	Slight----	Slight----	Moderate: slope.	Slight.
SaC---- Saucier	Slight----	Slight----	Severe: slope.	Slight.
SaD---- Saucier	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
ScB:[1] Saucier----	Slight----	Slight----	Moderate: slope.	Slight.
Susquehanna----	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: percs slowly, wetness.	Moderate: wetness.
ScD:[1] Saucier----	Slight----	Slight----	Severe: slope.	Slight.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails
ScD:[1] Susquehanna	Moderate: percs slowly, wetness.	Moderate: wetness.	Severe: slope.	Moderate: wetness.
SmD, SmE Smithdale	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight.
St, Su, SW[1] Smithton	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Sx.[1] Sulfaquepts				
TR[1] Trebloc	Severe: floods.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--WILDLIFE HABITAT

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AR:[1]											
Arkabutla	Poor	Fair	Fair	Good	Good	---	Fair	Fair	Fair	Good	Fair.
Rosebloom	Poor	Fair	Fair	Fair	---	Fair	Good	Good	Fair	Fair	Good.
At---------- Atmore	Poor	Fair	Fair	Fair	Fair	---	Good	Good	Fair	Fair	Good.
Ba.[1] Beaches											
Be---------- Beauregard	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor.
Bg:[1]											
Bigbee	Poor	Fair	Fair	Poor	Fair	---	Very poor.	Very poor.	Fair	Poor	Very poor.
Bibb	Poor	Fair	Fair	Fair	Fair	---	Good	Good	Fair	Fair	Good.
Bo---------- Bohicket	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	---	Good	Good	Very poor	Very poor	Good.
EsA---------- Escambia	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair.
EsB---------- Escambia	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
EuB---------- Eustis	Poor	Fair	Fair	Fair	Fair	---	Very poor.	Very poor.	Fair	Fair	Very poor.
Gu---------- Guyton	Fair	Fair	Fair	Fair	Good	---	Good	Good	Fair	Fair	Good.
HA[1]---------- Handsboro	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	---	Good	Good	Very poor	Very poor	Good.
HlA---------- Harleston	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor.
HlB---------- Harleston	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
LuA---------- Lucedale	Good	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
MaA---------- Malbis	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MaB---------- Malbis	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MaC---------- Malbis	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
McB---------- McLaurin	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
McC---------- McLaurin	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Oc---------- Ocilla	Fair	Fair	Good	Fair	Good	---	Fair	Fair	Fair	Good	Fair.
Pa.[1] Pits											
Pe---------- Plummer	Poor	Fair	Fair	Fair	Fair	---	Fair	Fair	Fair	Fair	Fair.
PoA, PoB, PoC, PoD- Poarch	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor.
RuA, RuB---------- Ruston	Good	Good	Good	---	Good	---	Poor	Very poor.	Good	Good	Very poor.
RuC---------- Ruston	Fair	Good	Good	---	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
SaA, SaB---------- Saucier	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor.
SaC, SaD---------- Saucier	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
ScB:[1]											
Saucier---------- Susquehanna------- ScD:[1]	Good Fair	Good Good	Good Good	Good Good	Good Good	--- ---	Poor Very poor.	Poor Very poor.	Good Good	Good Good	Poor. Very poor.
Saucier---------- Susquehanna------- SmD, SmE---------- Smithdale	Fair Fair Fair	Good Good Good	Good Good Good	Good Good Good	Good Good Good	--- --- ---	Very poor. Very poor. Very poor.	Very poor. Very poor. Very poor.	Good Good Good	Good Good Good	Very poor. Very poor. Very poor.
St, Su, SW[1]-------- Smithton	Poor	Fair	Fair	Fair	Fair	---	Good	Fair	Fair	Fair	Fair.
Sx.[1] Sulfaquepts											
TR[1]---------- Trebloc	Poor	Fair	Fair	Fair	Fair	---	Good	Good	Fair	Fair	Good.

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
AR:[1]					
Arkabutla	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, corrosive.	Severe: floods, low strength.
Rosebloom	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
At	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Atmore					
Ba.[1]					
Beaches					
Be	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: low strength, wetness.
Beauregard					
Bg:[1]					
Bigbee	Severe: floods, cutbanks cave.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.
Bibb	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Bo	Severe: floods, too clayey, wetness.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.	Severe: floods, shrink-swell, low strength.
Bohicket					
EsA, EsB	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, low strength.
Escambia					
EuB	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
Eustis					
Gu	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Guyton					
HA[1]	Severe: floods, excess humus, wetness.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.	Severe: floods, wetness, low strength.
Handsboro					
HlA	Moderate: wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Slight.
Harleston					
HlB	Moderate: wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Slight.
Harleston					
LuA	Slight	Slight	Slight	Slight	Slight.
Lucedale					
MaA, MaB	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Moderate: low strength.
Malbis					

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
MaC---------- Malbis	Moderate: wetness.	Slight----------	Moderate: wetness.	Moderate: slope.	Moderate: low strength.
McB---------- McLaurin	Slight----------	Slight----------	Slight----------	Slight----------	Slight.
McC---------- McLaurin	Slight----------	Slight----------	Slight----------	Moderate: slope.	Slight.
Oc---------- Ocilla	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.
Pa.[1] Pits					
Pe---------- Plummer	Severe: cutbanks cave, wetness.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness.
PoA, PoB---------- Poarch	Moderate: wetness.	Slight----------	Moderate: wetness.	Slight----------	Moderate: low strength.
PoC---------- Poarch	Moderate: wetness.	Slight----------	Moderate: wetness.	Moderate: slope,	Moderate: low strength.
PoD---------- Poarch	Moderate: wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: low strength, slope.
RuA, RuB---------- Ruston	Slight----------	Slight----------	Slight----------	Slight----------	Moderate: low strength.
RuC---------- Ruston	Slight----------	Slight----------	Slight----------	Moderate: slope.	Moderate: low strength.
SaA, SaB---------- Saucier	Moderate: wetness, too clayey.	Slight----------	Moderate: wetness.	Slight----------	Moderate: low strength.
SaC---------- Saucier	Moderate: wetness, too clayey.	Slight----------	Moderate: wetness.	Moderate: slope.	Moderate: low strength.
SaD---------- Saucier	Moderate: slope, wetness, too clayey.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: low strength, slope.
ScB:[1] Saucier----------	Moderate: wetness, too clayey.	Slight----------	Moderate: wetness.	Slight----------	Moderate: low strength.
Susquehanna------	Severe: too clayey, wetness.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: corrosive, shrink-swell.	Severe: low strength, shrink-swell.
ScD:[1] Saucier----------	Moderate: slope, wetness, too clayey.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: low strength, slope.
Susquehanna------	Severe: too clayey, wetness.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: corrosive, shrink-swell, slope.	Severe: low strength, shrink-swell.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
SmD, SmE---------- Smithdale	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.
St, Su, SW[1]------- Smithton	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.
Sx.[1] Sulfaquepts					
TR[1]---------- Trebloc	Severe: floods, wetness.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: floods, wetness, low strength.

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AR:[1]					
Arkabutla	Severe: floods, wetness.	Severe: floods.	Severe: floods, wetness.	Severe: floods, wetness.	Fair: too clayey.
Rosebloom	Severe: wetness, floods, percs slowly.	Severe: floods, wetness.	Severe: wetness, floods.	Severe: floods, wetness.	Poor: wetness.
At	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Atmore					
Ba.[1]					
Beaches					
Be	Severe: percs slowly, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey.
Beauregard					
Bg:[1]					
Bigbee	Severe: floods.	Severe: floods, seepage.	Severe: floods, seepage, wetness.	Severe: floods, seepage.	Fair: too sandy.
Bibb	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
Bo	Severe: floods, percs slowly, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: too clayey, wetness, floods.
Bohicket					
EsA	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Severe: wetness.	Good.
Escambia					
EsB	Severe: wetness, percs slowly.	Moderate: slope, seepage.	Severe: wetness.	Severe: wetness.	Good.
Escambia					
EuB	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: too sandy.
Eustis					
Gu	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Guyton					
HA[1]	Severe: wetness, floods.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: floods, wetness.	Poor: excess humus, wetness, floods.
Handsboro					
HlA	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Harleston					
HlB	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Harleston					

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
LuA---------- Lucedale	Slight----------	Moderate: seepage, slope.	Slight----------	Slight----------	Good.
MaA---------- Malbis	Severe: wetness.	Slight----------	Moderate: wetness.	Moderate: wetness.	Good.
MaB, MaC---------- Malbis	Severe: wetness.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Good.
McB, McC---------- McLaurin	Slight----------	Severe: seepage.	Slight----------	Slight----------	Good.
Oc---------- Ocilla	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Good.
Pa.[1] Pits					
Pe---------- Plummer	Severe: wetness.	Severe: wetness, floods, seepage.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.
PoA---------- Poarch	Severe: percs slowly.	Moderate: seepage.	Severe: wetness.	Moderate: wetness.	Good.
PoB, PoC---------- Poarch	Severe: percs slowly.	Moderate: slope, seepage.	Severe: wetness.	Moderate: wetness.	Good.
PoD---------- Poarch	Severe: percs slowly.	Severe: slope.	Severe: wetness.	Moderate: wetness, slope.	Fair: slope.
RuA---------- Ruston	Slight----------	Moderate: seepage.	Slight----------	Slight----------	Good.
RuB, RuC---------- Ruston	Slight----------	Moderate: seepage, slope.	Slight----------	Slight----------	Good.
SaA, SaB, SaC------- Saucier	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Fair: too clayey.
SaD---------- Saucier	Severe: wetness.	Severe: slope, wetness.	Moderate: wetness.	Moderate: wetness.	Fair: slope, too clayey.
ScB:[1] Saucier----------	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Fair: too clayey.
Susquehanna--------	Severe: percs slowly.	Moderate: slope.	Severe: too clayey, wetness.	Moderate: wetness.	Poor: too clayey.
ScD:[1] Saucier----------	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Fair: too clayey.
Susquehanna--------	Severe: percs slowly.	Severe: slope.	Severe: too clayey, wetness.	Moderate: wetness.	Poor: too clayey.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
SmD, SmE---------- Smithdale	Moderate: slope.	Severe: seepage, slope.	Slight----------	Moderate: slope.	Fair: slope.
St, Su, SW[1]--------- Smithton	Severe: percs slowly, wetness, floods.	Severe: wetness.	Severe: wetness, floods.	Severe: wetness, floods.	Poor: wetness.
Sx.[1] Sulfaquepts					
TR[1]---------- Trebloc	Severe: wetness, floods, percs slowly.	Slight----------	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and "poor." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
AR:[1]				
Arkabutla	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: too clayey.
Rosebloom	Poor: wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
At	Poor: wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Atmore				
Ba.[1]				
Beaches				
Be	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer.
Beauregard				
Bg:[1]				
Bigbee	Good	Fair: excess fines.	Unsuited: excess fines.	Fair: too sandy.
Bibb	Poor: wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Bo	Poor: shrink-swell, low strength, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness, too clayey, excess salt.
Bohicket				
EsA, EsB	Fair: wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
Escambia				
EuB	Good	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy.
Eustis				
Gu	Poor: wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Guyton				
HA[1]	Poor: excess humus, wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: excess salt, wetness.
Handsboro				
HlA, HlB	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
Harleston				
LuA	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
Lucedale				
MaA, MaB, MaC	Fair: low strength, wetness.	Poor: excess fines.	Unsuited: excess fines.	Fair: thin layer, too clayey.
Malbis				
McB, McC	Good	Unsuited: excess fines.	Unsuited: excess fines.	Good.
McLaurin				
Oc	Fair: wetness.	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy.
Ocilla				
Pa.[1]				
Pits				
Pe	Poor: wetness.	Poor: excess fines.	Unsuited: excess fines.	Poor: wetness.
Plummer				

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
PoA, PoB, PoC, PoD---- Poarch	Fair: low strength, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
RuA, RuB, RuC--------- Ruston	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
SaA, SaB, SaC--------- Saucier	Fair: low strength, wetness.	Poor: excess fines.	Unsuited: excess fines.	Fair: small stones, thin layer.
SaD-------------------- Saucier	Fair: low strength, wetness.	Poor: excess fines.	Unsuited: excess fines.	Fair: small stones, thin layer, slope.
ScB[1], ScD:[1] Saucier----------	Fair: low strength, wetness.	Poor: excess fines.	Unsuited: excess fines.	Fair: small stones, thin layer.
Susquehanna-----------	Poor: shrink-swell.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: too clayey.
SmD, SmE----------	Good----------	Unsuited: excess fines.	Unsuited: excess fines.	Fair: slope.
St, Su, SW[1]---------- Smithton	Poor: wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Sx.[1] Sulfaquepts				
TR[1]-------------------- Trebloc	Poor: wetness, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated]

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
AR:[1] Arkabutla	Moderate: seepage.	Moderate: piping.	Severe: no water.	Cutbanks cave, floods.	Erodes easily, piping, wetness.	Erodes easily.
Rosebloom	Slight	Slight	Severe: deep to water.	Floods, wetness.	Wetness	Wetness.
At Atmore	Moderate: seepage.	Moderate: piping.	Moderate: deep to water.	Favorable	Not needed	Favorable.
Ba.[1] Beaches						
Be Beauregard	Slight	Moderate: wetness.	Severe: no water.	Not needed	Not needed	Percs slowly, erodes easily.
Bg:[1] Bigbee	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Not needed	Not needed	Droughty.
Bibb	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Floods	Not needed	Wetness.
Bo Bohicket	Slight	Severe: shrink-swell.	Severe: salty water.	Floods, percs slowly, wetness.	Not needed	Not needed.
EsA, EsB Escambia	Moderate: seepage.	Moderate: thin layer, wetness.	Severe: slow refill.	Percs slowly, slope.	Wetness	Favorable.
EuB Eustis	Severe: seepage.	Moderate: seepage, erodes easily.	Severe: no water.	Not needed	Not needed	Droughty.
Gu Guyton	Slight	Moderate: erodes easily.	Severe: slow refill.	Cutbanks cave, percs slowly.	Not needed	Wetness.
HA[1] Handsboro	Severe: seepage.	Severe: unstable fill, excess humus.	Severe: salty water.	Excess salt, cutbanks cave, floods.	Not needed	Not needed.
HlA Harleston	Moderate: seepage.	Moderate: piping.	Severe: no water.	Wetness	Favorable	Favorable.
HlB Harleston	Moderate: seepage.	Moderate: piping.	Severe: no water.	Slope	Favorable	Favorable.
LuA Lucedale	Moderate: seepage.	Moderate: piping.	Severe: no water.	Not needed	Favorable	Favorable.
MaA, MaB, MaC Malbis	Moderate: seepage.	Severe: piping.	Severe: no water.	Not needed	Favorable	Favorable.
McB, McC McLaurin	Severe: seepage.	Moderate: piping, seepage.	Severe: no water.	Not needed	Favorable	Favorable.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
Oc---- Ocilla	Moderate: seepage.	Moderate: seepage.	Moderate: slow refill.	Favorable------	Not needed-----	Not needed.
Pa.[1] Pits						
Pe---- Plummer	Severe: seepage.	Severe: seepage, wetness.	Moderate: slow refill.	Poor outlets, cutbanks cave.	Not needed-----	Wetness.
PoA, PoB, PoC, PoD---- Poarch	Moderate: seepage.	Severe: piping.	Severe: deep to water, slow refill.	Not needed-----	Wetness--------	Favorable.
RuA, RuB---- Ruston	Moderate: seepage.	Slight---------	Severe: no water.	Not needed-----	Favorable------	Favorable.
RuC---- Ruston	Moderate: seepage.	Slight---------	Severe: no water.	Not needed-----	Favorable------	Slope.
SaA, SaB, SaC, SaD---- Saucier	Moderate: seepage.	Moderate: thin layer, wetness.	Moderate: slow refill.	Slope----------	Wetness, percs slowly.	Slope.
ScB[1], ScD:[1] Saucier----------	Moderate: seepage.	Moderate: thin layer, wetness.	Moderate: slow refill.	Slope----------	Wetness, percs slowly.	Slope.
Susquehanna------	Slight---------	Moderate: hard to pack, shrink-swell.	Severe: deep to water.	Percs slowly, slope.	Percs slowly, slope.	Percs slowly, slope.
SmD, SmE---- Smithdale	Severe: seepage.	Moderate: piping, unstable fill.	Severe: no water.	Not needed, slope.	Slope, erodes easily.	Slope, erodes easily.
St, Su, SW[1]------- Smithton	Moderate: seepage.	Moderate: unstable fill, piping.	Severe: no water.	Wetness, floods.	Wetness--------	Wetness.
Sx.[1] Sulfaquepts						
TR[1]---- Trebloc	Slight---------	Moderate: piping, wetness.	Severe: deep to water.	Percs slowly, wetness, floods.	Not needed-----	Wetness, percs slowly.

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--ENGINEERING INDEX PROPERTIES

[Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Frag-ments >3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
AR:[1]											
Arkabutla	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	100	100	85-100	60-95	25-35	7-15
	5-60	Silty clay loam, loam, silt loam.	CL	A-6, A-7	0	100	100	85-100	70-90	30-45	12-25
Rosebloom	0-60	Silt loam, silty clay loam.	CL	A-4, A-6	0	100	100	90-100	80-95	28-40	9-20
At	0-16	Silt loam	ML, CL-ML	A-4	0	90-100	90-100	85-100	50-70	<32	NP-7
Atmore	16-39	Loam, silt loam	ML, CL-ML	A-4	0	80-100	80-100	80-96	55-80	20-25	1-7
	39-60	Silt loam, clay loam, silty clay loam.	ML, CL, SM, SC	A-4, A-6	0	78-100	75-100	70-96	40-70	20-35	2-15
Ba.[1]											
Beaches											
Be	0-9	Silt loam	ML	A-4	0	100	100	90-100	70-95	<25	NP-3
Beauregard	9-19	Silt loam, silty clay loam.	CL, CL-ML	A-6, A-4	0	100	100	95-100	70-95	25-35	7-15
	19-60	Silty clay loam, silt loam.	CL	A-6	0	100	100	85-100	70-95	30-40	12-19
Bg:[1]											
Bigbee	0-38	Loamy sand	SM, SP-SM	A-2-4, A-3	0	100	95-100	80-95	5-30	---	NP
	38-60	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	85-100	85-100	80-100	5-20	---	NP
Bibb	0-60	Silt loam	SM, SM-SC, ML, CL-ML	A-2, A-4	0-5	95-100	90-100	60-90	30-60	<25	NP-7
Bo	0-10	Silty clay	CH, MH	A-7	0	100	99-100	98-100	90-100	60-100	30-60
Bohicket	10-62	Silty clay, clay	CH, MH	A-7	0	100	99-100	80-100	70-95	50-100	19-60
EsA, EsB	0-14	Loam	CL-ML, ML, SM, SM-SC	A-4	0	95-100	95-100	75-95	40-75	<25	NP-7
Escambia	14-33	Fine sandy loam, loam, silt loam.	SC, SM-SC, CL, CL-ML	A-4, A-6	0	95-100	95-100	70-90	40-75	20-30	5-15
	33-60	Fine sandy loam, loam, silt loam.	SC, CL	A-4, A-6	0	85-95	85-95	60-90	35-80	20-35	8-20
EuB	0-6	Loamy fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-16	---	NP
Eustis	6-26	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-16	---	NP
	26-68	Loamy fine sand, loamy sand.	SM	A-2-4	0	100	100	90-100	15-25	---	NP
	68-85	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	---	NP
Gu	0-17	Silt loam	ML, CL-ML	A-4	0	100	100	95-100	65-90	<27	NP-7
Guyton	17-63	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-6, A-4	0	100	100	94-100	75-95	22-40	6-18

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Frag-ments >3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
HA[1]---------- Handsboro	0-2	Mucky silt loam	ML	A-4	0	100	100	95-100	90-100	<20	NP-4
	2-46	Sapric material	PT	---	---	---	---	---	---	---	---
	46-61	Stratified sapric material to loam.	PT	---	---	---	---	---	---	---	---
H1A, H1B---------- Harleston	0-8	Fine sandy loam	ML, SM, CL-ML, SM-SC	A-2, A-4	0	90-100	85-100	60-85	30-55	<25	NP-7
	8-30	Sandy loam, loam	SC, CL, CL-ML, SM-SC	A-2, A-4	0	90-100	85-100	60-95	30-70	20-30	5-10
	30-60	Sandy loam, loam, sandy clay loam.	SC, CL, CL-ML, SM-SC	A-2, A-4, A-6	0	90-100	85-100	60-95	30-70	20-35	5-13
LuA---------- Lucedale	0-6	Fine sandy loam	SM, ML	A-2, A-4	0	100	95-100	80-95	25-65	<30	NP-3
	6-64	Sandy clay loam, clay loam, loam.	CL-ML, SC, CL, SM-SC	A-4, A-6, A-2	0	95-100	95-100	80-100	30-75	25-40	4-15
MaA, MaB, MaC------ Malbis	0-7	Loam----------	SM, ML	A-4	0	100	97-100	92-97	40-62	<30	NP-5
	7-20	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4	0	99-100	95-99	91-97	55-62	26-31	5-9
	20-32	Sandy clay loam, clay loam.	ML	A-4, A-5, A-7	0	98-100	96-100	90-97	56-71	36-46	4-13
	32-60	Sandy clay loam, clay loam.	ML	A-4, A-5, A-7	0	98-100	96-100	90-97	56-71	36-46	4-13
McB, McC---------- McLaurin	0-16	Fine sandy loam	SC, SM, SM-SC	A-4	0	90-100	90-100	70-85	36-45	<30	NP-4
	16-34	Sandy loam, fine sandy loam.	SM, SC, SM-SC	A-4	0	90-100	90-100	85-95	36-45	<30	NP-10
	34-48	Loamy fine sand	SM	A-2	0	90-100	90-100	50-75	15-30	<20	NP-4
	48-75	Sandy loam, sandy clay loam, loam.	SM-SC, SC, ML, CL	A-4, A-6	0	90-100	90-100	70-80	36-55	30-40	6-15
Oc---------- Ocilla	0-32	Loamy sand------	SM, SP-SM	A-2, A-3	0	100	95-100	75-100	8-35	---	NP
	32-60	Sandy loam, sandy clay loam.	SM, CL, SC	A-2, A-4, A-6	0	100	95-100	80-100	30-55	<40	NP-18
Pa.[1] Pits											
Pe---------- Plummer	0-41	Loamy sand------	SM, SP-SM	A-2-4, A-3	0	100	100	75-96	5-26	---	NP
	41-60	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SM-SC	A-2-4, A-2-6	0	100	97-100	76-96	26-35	<31	NP-14
PoA, PoB, PoC, PoD- Poarch	0-7	Fine sandy loam	SM, SM-SC	A-4, A-2-4	0	95-100	95-100	70-95	30-50	<25	NP-5
	7-35	Loam, fine sandy loam, silt loam.	ML, CL-ML, CL	A-4	0	95-100	95-100	85-95	51-75	20-30	NP-10
	35-60	Loam, fine sandy loam, silt loam.	ML, CL, CL-ML	A-4	0	85-100	85-100	85-95	51-75	20-30	2-10

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments >3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
RuA, RuB, RuC---- Ruston	0-11	Fine sandy loam	SM, ML	A-4, A-2-4	0	85-100	78-100	65-100	30-75	<20	NP-3
	11-57	Sandy clay loam, loam, clay loam.	SC, CL	A-6	0	85-100	78-100	70-100	36-75	30-40	11-18
	57-67	Fine sandy loam, sandy loam.	SM, ML, CL-ML, SM-SC	A-4, A-2-4	0	85-100	78-100	65-100	30-75	<27	NP-7
	67-84	Sandy clay loam, loam, clay loam.	SC, CL	A-6	0	85-100	78-100	70-100	36-75	30-40	11-18
SaA, SaB, SaC, SaD- Saucier	0-9	Fine sandy loam	SM, ML, SM-SC	A-4	0	90-100	85-100	70-86	40-55	<20	NP-4
	9-40	Loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-6, A-4	0	80-100	78-95	75-95	40-75	25-38	5-15
	40-47	Silty clay loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-7, A-6, A-4	0	80-100	75-100	70-100	40-95	28-48	6-25
	47-60	Clay, silty clay, clay loam.	CH, CL	A-7	0	100	90-100	90-100	80-90	47-60	22-34
ScB,[1] ScD:[1] Saucier----	0-9	Fine sandy loam	SM, ML, SM-SC	A-4	0	90-100	85-100	70-86	40-55	<20	NP-4
	9-40	Loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-6, A-4	0	80-100	78-95	75-95	40-75	25-38	5-15
	40-47	Silty clay loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-7, A-6, A-4	0	80-100	75-100	70-100	40-95	28-48	6-25
	47-60	Clay, silty clay, clay loam.	CH, CL	A-7	0	100	90-100	90-100	80-90	47-60	22-34
Susquehanna----	0-7	Fine sandy loam	ML, SM	A-4	0	100	100	65-90	40-55	---	NP
	7-60	Clay, silty clay loam, silty clay.	CH, MH	A-7	0	100	100	88-100	80-98	50-90	28-56
SmD, SmE---- Smithdale	0-12	Fine sandy loam	SM, SM-SC	A-4	0	100	85-100	60-80	36-49	<20	NP-5
	12-46	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-95	45-75	23-38	7-15
	46-80	Loam, sandy loam	SM, ML, CL, SC	A-4	0	100	85-100	65-80	36-70	<30	NP-10
St, Su, SW[1]---- Smithton	0-8	Fine sandy loam	ML, SM	A-2, A-4	0	95-100	95-100	60-95	30-65	---	NP
	8-60	Fine sandy loam, loam.	ML, CL-ML	A-4	0	95-100	95-100	85-95	55-80	20-25	2-7
Sx.[1] Sulfaquepts											
TR[1]---- Trebloc	0-6	Silt loam----	ML, CL-ML	A-4	0	100	100	85-100	60-90	<30	NP-7
	6-32	Silt loam, silty clay loam, loam.	CL	A-4, A-6	0	100	100	85-100	85-100	25-40	8-16
	32-60	Silty clay loam, silty clay, clay loam.	CL	A-6, A-7	0	100	100	85-100	85-100	30-48	12-21

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not available or were not estimated]

Map symbol and soil name	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
AR:[1]							
Arkabutla	0-5	0.6-2.0	0.20-0.22	4.5-5.5	Low	0.37	5
	5-60	0.6-2.0	0.18-0.21	4.5-5.5	Low	0.32	
Rosebloom	0-60	0.06-0.2	0.20-0.24	4.5-5.5	Moderate	0.37	3
At	0-16	0.6-2.0	0.16-0.24	3.6-5.5	Low	0.37	3
Atmore	16-39	0.6-2.0	0.16-0.24	3.6-5.5	Low	0.37	
	39-60	0.2-0.6	0.18-0.22	3.6-5.5	Low	0.32	
Ba.[1]							
Beaches							
Be	0-9	0.6-2.0	0.20-0.22	5.1-6.5	Low	0.43	4
Beauregard	9-19	0.2-0.6	0.20-0.22	4.5-5.5	Low	0.37	
	19-60	0.06-0.2	0.20-0.22	4.5-6.0	Low	0.37	
Bg:[1]							
Bigbee	0-38	6.0-20	0.05-0.10	4.5-6.0	Low	0.17	5
	38-60	6.0-20	0.05-0.08	4.5-6.0	Low	0.17	
Bibb	0-60	0.6-2.0	0.12-0.18	4.5-5.5	Low	0.20	5
Bo	0-10	0.06-0.2	0.14-0.18	6.1-8.4	High	0.32	5
Bohicket	10-62	<0.06	0.12-0.16	6.1-8.4	High	0.24	
EsA, EsB	0-14	2.0-6.0	0.11-0.15	4.5-5.5	Low	0.24	4
Escambia	14-33	0.6-2.0	0.15-0.20	4.5-5.5	Low	0.24	
	33-60	0.06-0.6	0.12-0.18	4.5-5.5	Low	0.28	
EuB	0-6	6.0-20	0.08-0.10	4.5-5.5	Low	0.17	5
Eustis	6-26	6.0-20	0.05-0.08	4.5-5.5	Low	0.17	
	26-68	6.0-20	0.07-0.11	4.5-5.5	Low	0.17	
	68-85	6.0-20	0.05-0.07	4.5-5.5	Low	0.17	
Gu	0-17	0.6-2.0	0.20-0.23	3.6-6.0	Low	0.49	3
Guyton	17-63	0.06-0.2	0.15-0.22	3.6-8.4	Low	0.37	
HA[1]	0-2	0.6-2.0	0.20-0.30	6.6-8.4	Low	----	---
Handsboro	2-46	---	---	6.6-8.4	----------	----	
	46-61	---	---	6.6-8.4	----------	----	
HlA, HlB	0-8	0.6-2.0	0.08-0.16	3.6-5.5	Low	0.20	5
Harleston	8-30	0.6-2.0	0.13-0.16	4.5-5.5	Low	0.32	
	30-60	0.6-2.0	0.13-0.16	4.5-5.5	Low	0.32	
LuA	0-6	0.6-2.0	0.15-0.20	5.1-6.5	Low	0.24	5
Lucedale	6-64	0.6-2.0	0.14-0.18	4.5-5.5	Low	0.24	
MaA, MaB, MaC	0-7	0.6-2.0	0.10-0.15	4.5-6.0	Low	0.28	5
Malbis	7-20	0.6-2.0	0.12-0.20	4.5-5.5	Low	0.28	
	20-32	0.6-2.0	0.12-0.17	4.5-5.5	Low	0.28	
	32-60	0.2-0.6	0.12-0.17	4.5-5.5	Low	0.28	
McB, McC	0-16	0.6-2.0	0.12-0.15	4.5-5.5	Low	0.20	5
McLaurin	16-34	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20	
	34-48	2.0-6.0	0.05-0.10	4.5-5.5	Very low	0.20	
	48-75	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20	
Oc	0-32	2.0-6.0	0.05-0.08	4.5-5.5	Low	0.17	5
Ocilla	32-60	0.6-2.0	0.09-0.12	4.5-5.5	Low	0.24	

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Map symbol and soil name	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
Pa.[1] Pits							
Pe	0-41	2.0-6.0	0.03-0.08	3.6-5.5	Very low	0.10	5
Plummer	41-60	0.6-2.0	0.10-0.13	3.6-5.5	Very low	0.15	
PoA, PoB, PoC, PoD	0-7	2.0-6.0	0.10-0.15	4.5-5.5	Low	0.20	5
Poarch	7-35	0.6-2.0	0.10-0.20	4.5-5.5	Low	0.24	
	35-60	0.2-0.6	0.10-0.20	4.5-5.5	Low	0.24	
RuA, RuB, RuC	0-11	0.6-2.0	0.09-0.16	5.1-6.5	Low	0.32	5
Ruston	11-57	0.6-2.0	0.12-0.17	4.5-6.0	Low	0.28	
	57-67	0.6-2.0	0.12-0.15	4.5-6.0	Low	0.32	
	67-84	0.6-2.0	0.12-0.17	4.5-6.0	Low	0.28	
SaA, SaB, SaC, SaD	0-9	2.0-6.0	0.12-0.15	3.6-5.5	Low	0.24	4
Saucier	9-40	0.6-2.0	0.16-0.19	3.6-5.5	Low	0.32	
	40-47	0.06-0.2	0.16-0.20	3.6-5.5	Low	0.32	
	47-60	0.06-0.2	0.16-0.20	3.6-5.5	Moderate	0.32	
ScB,[1] ScD:[1]							
Saucier	0-9	2.0-6.0	0.12-0.15	3.6-5.5	Low	0.24	4
	9-40	0.6-2.0	0.16-0.19	3.6-5.5	Low	0.32	
	40-47	0.06-0.2	0.16-0.20	3.6-5.5	Low	0.32	
	47-60	0.06-0.2	0.16-0.20	3.6-5.5	Moderate	0.32	
Susquehanna	0-7	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.43	3
	7-60	<0.06	0.15-0.20	4.5-5.5	High	0.32	
SmD, SmE	0-12	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28	5
Smithdale	12-46	0.6-2.0	0.15-0.17	4.5-5.5	Low	0.24	
	46-80	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28	
St, Su, SW[1]	0-8	0.6-2.0	0.10-0.2	4.5-5.5	Low	0.32	5
Smithton	8-60	0.2-0.6	0.11-0.2	4.5-5.5	Low	0.32	
Sx.[1] Sulfaquepts							
TR[1]	0-6	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.37	3
Trebloc	6-32	0.2-0.6	0.15-0.20	4.5-5.5	Moderate	0.37	
	32-60	0.2-0.6	0.14-0.18	4.5-5.5	Moderate	0.37	

[1] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--SOIL AND WATER FEATURES

[The definitions of "flooding" and "water table" in the text explain terms such as "rare," "brief," "apparent," and "perched." Absence of an entry indicates that the feature is not a concern]

Map symbol and soil name	Hydrologic group	Flooding			High water table			Depth to bedrock	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months		Uncoated steel	Concrete
					Ft			In		
AR:[1] Arkabutla	C	Frequent	Brief to very long.	Jan-Apr	1.5-2.5	Apparent	Jan-Apr	>60	High	High.
Rosebloom	D	Frequent	Brief to very long.	Jan-Apr	0-1.0	Apparent	Jan-Apr	>60	High	Moderate.
At Atmore	B/D	None	---	---	0-1.0	Perched	Oct-Mar	>60	High	High.
Ba.[1] Beaches										
Be Beauregard	C	None	---	---	1.5-3.0	Apparent	Dec-Mar	>60	High	High.
Bg:[1] Bigbee	A	Frequent	Brief	Jan-Mar	3.5-6.0	Apparent	Jan-Mar	>60	Low	Moderate.
Bibb	C	Frequent	Brief	Dec-May	0-1.5	Apparent	Dec-Apr	>60	High	Moderate.
Bo Bohicket	D	Frequent	Very brief	Jan-Dec	+3-0	Apparent	Jan-Dec	>60	High	High.
EsA, EsB Escambia	C	None	---	---	1.5-2.5	Apparent	Dec-Mar	>60	Moderate	High.
EuB Eustis	A	None	---	---	>6.0	---	---	>60	Low	High.
Gu Guyton	D	None	---	---	0-1.5	Perched	Dec-May	>60	High	Moderate.
HA[1] Handsboro	D	Frequent	Very long	Jan-Dec	+3-0.5	Marsh	Jan-Dec	>60	High	High.
HlA, HlB Harleston	C	None	---	---	2.0-3.0	Apparent	Nov-Mar	>60	Moderate	High.
LuA Lucedale	B	None	---	---	>6.0	---	---	>60	Moderate	Moderate.
MaA, MaB, MaC Malbis	B	None	---	---	2.5-4.0	Perched	Dec-Mar	>60	Moderate	Moderate.
McB, McC McLaurin	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
Oc Ocilla	C	None	---	---	1.0-2.5	Apparent	Dec-Apr	>60	High	Moderate.
Pa.[1] Pits										
Pe Plummer	B/D	Rare	---	---	+2-1.5	Apparent	Dec-Jul	>60	Moderate	High.
PoA, PoB, PoC, PoD Poarch	B	None	---	---	2.5-5.0	Apparent	Dec-Mar	>60	Low	High.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table			Depth to bedrock	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months		Uncoated steel	Concrete
					Ft			In		
RuA, RuB, RuC----- Ruston	B	None--------	---	---	>6.0	---	---	>60	Moderate	Moderate.
SaA, SaB, SaC, SaD---------- Saucier	C	None--------	---	---	2.5-4.0	Perched	Jan-Mar	>60	Moderate	High.
ScB,[1] ScD:[1] Saucier----------	C	None--------	---	---	2.5-4.0	Perched	Jan-Mar	>60	Moderate	High.
Susquehanna------	D	None--------	---	---	>6.0	---	---	>60	High-----	High.
SmD, SmE---------- Smithdale	B	None--------	---	---	>6.0	---	---	>60	Low------	Moderate.
St---------- Smithton	D	Occasional--	Brief to long.	Dec-May	0-1.0	Perched	Dec-May	>60	High-----	High.
Su, SW[1]---------- Smithton	D	Frequent----	Long------	Dec-May	0-1.0	Perched	Dec-May	>60	High-----	High.
Sx.[1] Sulfaquepts										
TR[1]---------- Trebloc	D	Frequent----	Long------	Jan-Apr	0-1.0	Apparent	Jan-Apr	>60	High-----	High.

[1]See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--PARTICLE SIZE DISTRIBUTION

Soil series and laboratory number	Horizon	Depth from surface	Sand fraction: Very coarse sand (2.0 to 1.0 mm)	Sand fraction: Coarse sand (1.0 to 0.5 mm)	Sand fraction: Medium sand (0.5 to 0.25 mm)	Sand fraction: Fine sand (0.25 to 0.1 mm)	Sand fraction: Very fine sand (0.1 to 0.05 mm)	Total sand (2.0 to 0.05 mm)	Silt (0.05 to 0.002 mm)	Clay (<0.002 mm)	Textural class
		In	Percent								
Bohicket:											
RS2-1	A1g	0-10	0.19	0.20	0.33	4.15	6.84	11.70	44.55	43.75	Silty clay.
RS2-2	C1g	10-27	0.08	0.13	0.12	0.63	2.70	3.65	42.35	54.00	Silty clay.
RS2-3	C2g	27-38	0.09	0.15	0.19	1.13	3.01	4.58	52.92	42.50	Silty clay.
RS2-4	C3g	38-62	0.01	0.35	2.61	4.86	4.10	11.95	62.05	26.00	Silt loam.
Guyton:											
7819-8	A1	0-4	0.30	0.90	4.50	5.90	5.10	16.60	75.00	8.40	Silt loam.
7819-9	A21g	4-9	0.10	0.20	3.50	5.90	5.30	15.10	72.20	12.70	Silt loam.
7819-10	A22g	9-17	0.20	0.20	2.90	5.10	5.00	13.40	71.40	15.20	Silt loam.
7819-11	B&A	17-31	0.20	0.20	2.80	4.80	4.70	12.70	72.10	15.20	Silt loam.
7819-12	B21tg	31-47	0.10	0.10	1.70	3.10	3.60	8.50	58.40	33.10	Silty clay loam.
7819-13	B22tg	47-63	0	0.10	1.40	2.60	3.10	7.20	53.60	39.20	Silty clay loam.

TABLE 18.--CHEMICAL ANALYSIS

Soil series and laboratory number	Horizon	Depth from surface	Reaction		Organic matter	Exchangeable cations						
			1:1 (H_2O)	KCl		Ca++	Mg++	K+	Na+	H+	Sum of cations[1]	Base saturation by sum of cations
		In			Pct	Milliequivalents per 100 grams						Pct
Bohicket:												
RS2-1	A1g	0-10	6.8	5.6	7.46	0.95	5.43	2.42	8.06	9.06	25.92	65.05
RS2-2	C1g	10-27	6.5	6.5	7.47	1.21	7.22	3.03	12.11	6.63	30.20	78.05
RS2-3	C2g	27-38	7.1	7.0	8.48	1.11	6.90	3.81	14.57	4.68	31.07	84.94
RS2-4	C3g	38-62	7.1	7.3	10.61	1.43	12.54	3.87	18.96	6.46	43.26	85.07
Guyton:												
7819-8	A1	0-4	4.7	3.8	4.70	0.66	0.94	0.11	0.091	11.84	13.641	13.20
7819-9	A21g	4-9	5.0	3.8	3.10	0.39	0.73	0.044	0.091	8.99	10.245	12.25
7819-10	A22g	9-17	5.0	3.8	1.60	0.33	0.73	0.035	0.10	8.15	9.345	12.79
7819-11	B&A	17-31	5.2	3.7	1.50	0.39	1.02	0.046	0.16	4.71	6.326	25.55
7819-12	B21tg	31-47	5.3	3.6	2.30	1.40	3.25	0.14	0.31	14.00	19.10	26.70
7819-13	B22tg	47-63	5.2	3.6	2.30	3.28	6.99	0.30	0.49	15.44	26.50	41.74

[1] Summation of exchangeable cations.

TABLE 19.--ENGINEERING TEST DATA

[Dashes indicate data were not available. NP means nonplastic]

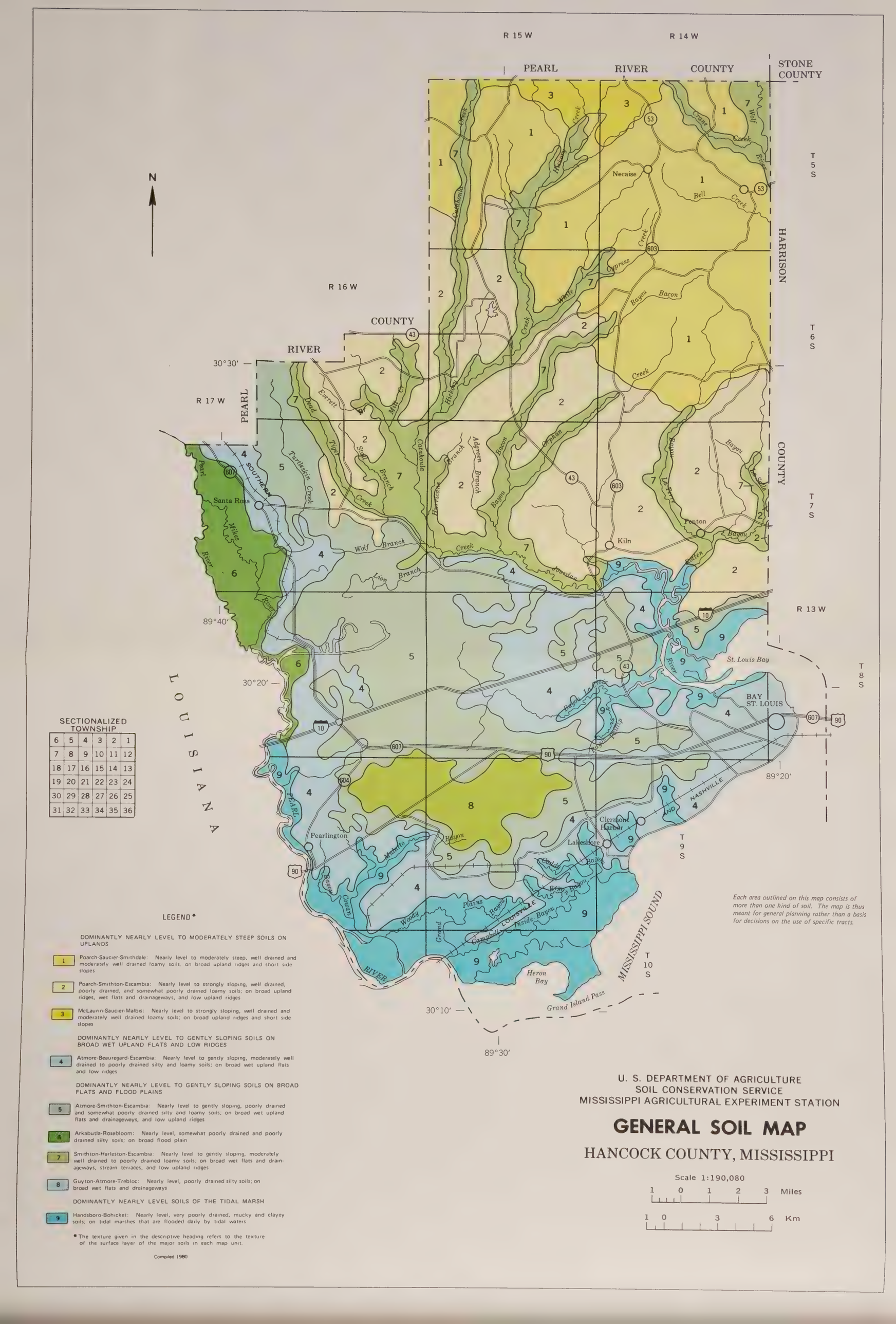
Soil name, report number, horizon, and depth in inches	Classification		Grain size distribution							Liquid limit	Plasticity index	Moisture density		Shrinkage		
			Percentage passing sieve--				Percentage smaller than--									
	AASHTO	Unified	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm			Moisture density	Optimum moisture	Limit	Linear	Ratio
										Pct		Lb/ft^3	Pct	Pct	Pct	Pct
Guyton silt loam:[1] (S78MS-045-001)																
A21g----- 4 to 9	A-4 (00)	ML	100	100	99	89	54	19	12	--	NP	103	17	0.0	0.0	0.0
B&A------17 to 31	A-4 (07)	CL	100	100	99	91	58	26	18	29	8	109	17	19.0	0.0	1.6

[1] Guyton silt loam:
0.5 mile west of T.G.T. pumping station on Mulatto Bayou Road and 90 feet south; NE1/4NW1/4 sec. 28 T. 9 S., R. 15 W.

TABLE 20.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Arkabutla	Fine-silty, mixed, acid, thermic Aeric Fluvaquents
Atmore	Coarse-loamy, siliceous, thermic Plinthic Paleaquults
Beauregard	Fine-silty, siliceous, thermic Plinthaquic Paleudults
Bibb	Coarse-loamy, siliceous, acid, thermic Typic Fluvaquents
Bigbee	Thermic, coated Typic Quartzipsamments
Bohicket	Fine, mixed, nonacid, thermic Typic Sulfaquents
Escambia	Coarse-loamy, siliceous, thermic Plinthaquic Paleudults
Eustis	Sandy, siliceous, thermic Psammentic Paleudults
Guyton	Fine-silty, siliceous, thermic Typic Glossaqualfs
Handsboro	Euic, thermic Typic Sulfihemists
Harleston	Coarse-loamy, siliceous, thermic Aquic Paleudults
Lucedale	Fine-loamy, siliceous, thermic Rhodic Paleudults
Malbis	Fine-loamy, siliceous, thermic Plinthic Paleudults
McLaurin	Coarse-loamy, siliceous, thermic Typic Paleudults
Ocilla	Loamy, siliceous, thermic Aquic Arenic Paleudults
Plummer	Loamy, siliceous, thermic Grossarenic Paleaquults
Poarch	Coarse-loamy, siliceous, thermic Plinthic Paleudults
Rosebloom	Fine-silty, mixed, acid, thermic Typic Fluvaquents
Ruston	Fine-loamy, siliceous, thermic Typic Paleudults
Saucier	Fine-loamy, siliceous, thermic Plinthaquic Paleudults
Smithdale	Fine-loamy, siliceous, thermic Typic Paleudults
Smithton	Coarse-loamy, siliceous, thermic Typic Paleaquults
Susquehanna	Fine, montmorillonitic, thermic Vertic Paleudalfs
Trebloc	Fine-silty, siliceous, thermic Typic Paleaquults

☆ U.S. GOVERNMENT PRINTING OFFICE: 1981-314-717/1053



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

LEGEND*

DOMINANTLY NEARLY LEVEL TO MODERATELY STEEP SOILS ON UPLANDS

1 Poarch-Saucier-Smithdale: Nearly level to moderately steep, well drained and moderately well drained loamy soils, on broad upland ridges and short side slopes

2 Poarch-Smithton-Escambia: Nearly level to strongly sloping, well drained, poorly drained, and somewhat poorly drained loamy soils; on broad upland ridges, wet flats and drainageways, and low upland ridges

3 McLaurin-Saucier-Malbis: Nearly level to strongly sloping, well drained and moderately well drained loamy soils; on broad upland ridges and short side slopes

DOMINANTLY NEARLY LEVEL TO GENTLY SLOPING SOILS ON BROAD WET UPLAND FLATS AND LOW RIDGES

4 Atmore-Beauregard-Escambia: Nearly level to gently sloping, moderately well drained to poorly drained silty and loamy soils; on broad wet upland flats and low ridges

DOMINANTLY NEARLY LEVEL TO GENTLY SLOPING SOILS ON BROAD FLATS AND FLOOD PLAINS

5 Atmore-Smithton-Escambia: Nearly level to gently sloping, poorly drained and somewhat poorly drained silty and loamy soils; on broad wet upland flats and drainageways, and low upland ridges

6 Arkabutla-Rosebloom: Nearly level, somewhat poorly drained and poorly drained silty soils; on broad flood plain

7 Smithton-Harleston-Escambia: Nearly level to gently sloping, moderately well drained to poorly drained loamy soils; on broad wet flats and drainageways, stream terraces, and low upland ridges

8 Guyton-Atmore-Trebloc: Nearly level, poorly drained silty soils; on broad wet flats and drainageways

DOMINANTLY NEARLY LEVEL SOILS OF THE TIDAL MARSH

9 Handsboro-Bohicket: Nearly level, very poorly drained, mucky and clayey soils; on tidal marshes that are flooded daily by tidal waters

* The texture given in the descriptive heading refers to the texture of the surface layer of the major soils in each map unit.

Compiled 1980

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

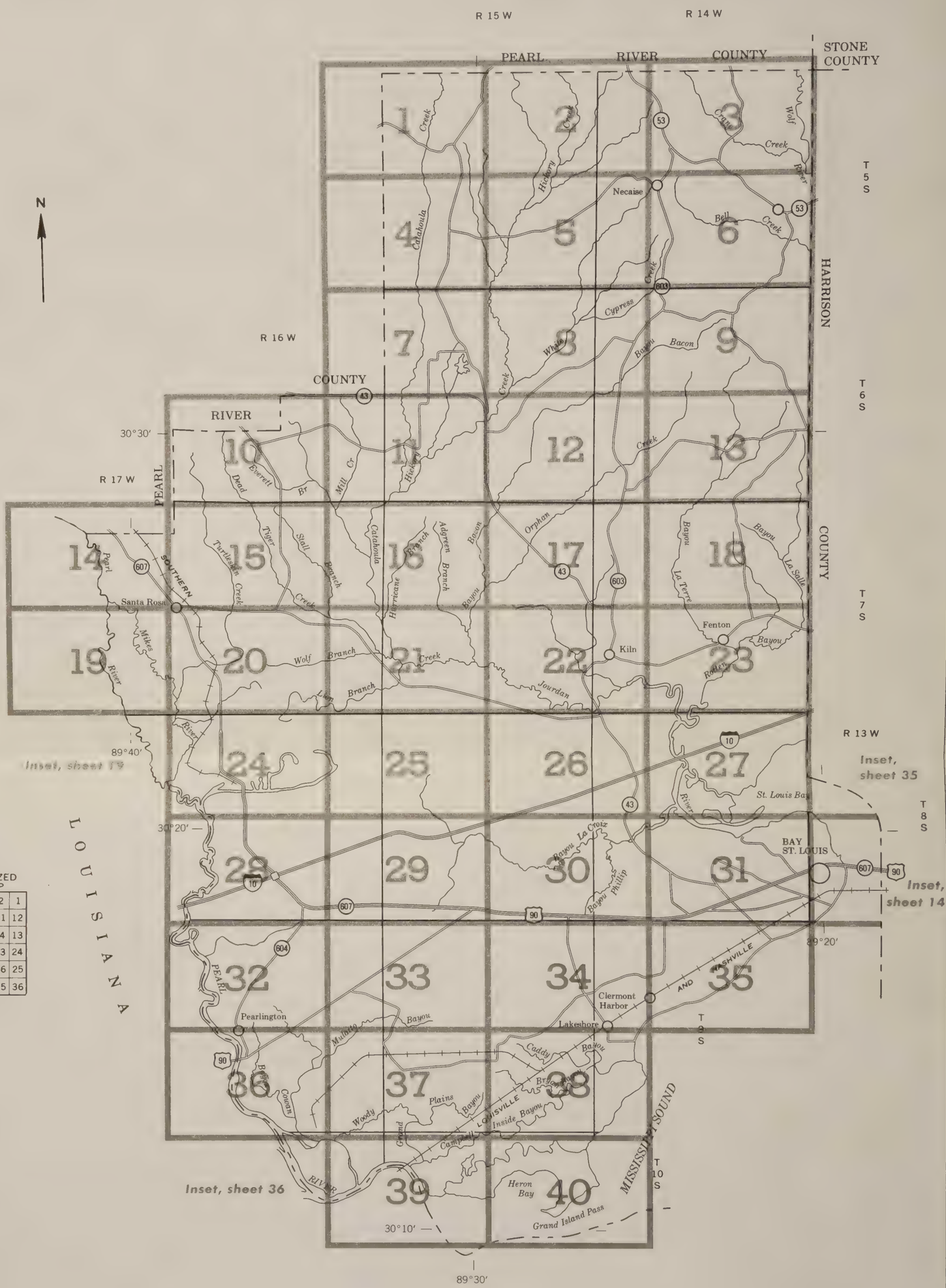
GENERAL SOIL MAP

HANCOCK COUNTY, MISSISSIPPI

Scale 1:190,080

1 0 1 2 3 Miles

1 0 3 6 Km



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS

HANCOCK COUNTY, MISSISSIPPI

Scale 1:190,080

1 0 1 2 3 Miles

1 0 3 6 Km

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The second letter is a capital if the mapping unit is broadly defined 1/; otherwise, it is a small letter. The third letter, if used, is always a capital and shows the slope. Symbols without slope letters are those of nearly level soils or miscellaneous areas.

SYMBOL	NAME
AR	Arkabutla-Rosebloom association, frequently flooded
At	Atmore silt loam
Ba	Beaches
Be	Beauregard silt loam
Bg	Bigbee-Bibb complex, frequently flooded
Bo	Bohicket silty clay
EsA	Escambia loam, 0 to 2 percent slopes
EsB	Escambia loam, 2 to 5 percent slopes
EuB	Eustis loamy fine sand, 2 to 5 percent slopes
Gu	Guyton silt loam
HA	Handsboro association
H1A	Harleston fine sandy loam, 0 to 2 percent slopes
H1B	Harleston fine sandy loam, 2 to 5 percent slopes
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes
MaA	Malbis fine sandy loam, 0 to 2 percent slopes
MaB	Malbis fine sandy loam, 2 to 5 percent slopes
MaC	Malbis fine sandy loam, 5 to 8 percent slopes
McB	McLaurin fine sandy loam, 2 to 5 percent slopes
McC	McLaurin fine sandy loam, 5 to 8 percent slopes
Oc	Ocilla loamy sand
Pa	Pits
Pe	Plummer loamy sand
PoA	Poarch fine sandy loam, 0 to 2 percent slopes
PoB	Poarch fine sandy loam, 2 to 5 percent slopes
PoC	Poarch fine sandy loam, 5 to 8 percent slopes
PoD	Poarch fine sandy loam, 8 to 12 percent slopes
RuA	Ruston fine sandy loam, 0 to 2 percent slopes
RuB	Ruston fine sandy loam, 2 to 5 percent slopes
RuC	Ruston fine sandy loam, 5 to 8 percent slopes
SaA	Saucier fine sandy loam, 0 to 2 percent slopes
SaB	Saucier fine sandy loam, 2 to 5 percent slopes
SaC	Saucier fine sandy loam, 5 to 8 percent slopes
SaD	Saucier fine sandy loam, 8 to 12 percent slopes
ScB	Saucier-Susquehanna complex, 2 to 5 percent slopes
ScD	Saucier-Susquehanna complex, 5 to 12 percent slopes
SmD	Smithdale fine sandy loam, 8 to 12 percent slopes
SmE	Smithdale fine sandy loam, 12 to 17 percent slopes
St	Smithton fine sandy loam, occasionally flooded
Su	Smithton fine sandy loam, frequently flooded
SW	Smithton association, frequently flooded
Sx	Sulfaquepts, sandy
TR	Trebloc association, frequently flooded
W	Water

1/ The composition of these units is more variable than that of others in the survey area but has been controlled well enough to be interpreted for the expected use of the soils.

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline
- AD HOC BOUNDARY (label) — Hedley Airstrip
- Small airport, airfield, park, oilfield, cemetery, or flood pool — FLOOD POOL LINE

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate — 21
- Federal — 173
- State — 28
- County, farm or ranch — 1283

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small — water — w

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) — Indian Mound
- Located object (label) — Tower
- Tank (label) — Gas
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) — CANAL
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial — water — w
- Intermittent — int — i

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS — MaA — EuB

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 1

270 000 FEET

345 000 FEET

PEARL RIVER COUNTY

R. 15 W.

T. 5 S.

PEARL RIVER COUNTY

Catahoula Creek

water

6 5 4 7 8 9 18 17 16

SaD SmD Pa RuB SaC SaB PoB PoD McB MaC HlB SW EsB SmE RuC At Su Bg St ScD MaB

N

1 Kilometer

5000 Feet

0 1000 2000 3000 4000 5000

(Joins sheet 2)

(Joins sheet 4)

345 000 FEET

290 000 FEET

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 2

N

Scale - 1:20000

5,000 Feet 0 1 Kilometer

PEARL RIVER COUNTY

R. 15 W. | R. 14 W.

T. 5 S.

Hickory Creek

water

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 5)

345 000 FEET

295 000 FEET

355 000 FEET

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 3

320 000 FEET

R. 14 W.

PEARL RIVER COUNTY

HARRISON COUNTY

(Joins sheet 2)

(Joins sheet 3)

(Joins sheet 6)

T. 5 S.

340 000 FEET

PREVIOUSLY PUBLISHED BOUNDARY

5 000 Feet

1 Kilometer

Wolf River

Crane Creek

Tower

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 4

(4)

N

Scale - 1:20000

0 5,000 Feet

0 1 Kilometer

(Joins sheet 1)

R. 15 W.

290,000 FEET

340,000 FEET

T. 5 S.

330,000 FEET

270,000 FEET

(Joins sheet 7)

(Joins sheet 5)

PEARL RIVER COUNTY

Caesar

Catahoula Creek

Bg Gu HIA HIB LuA MaB McB McC Pa PoA PoB PoC PoD RuB SaB SaC SmD SmE St Su SW

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 5

5

N

R. 15 W. | R. 14 W.

295 000 FEET

340 000 FEET

330 000 FEET

315 000 FEET

T. 5 S.

Creek

Hickory

water

(Joins sheet 2)

(Joins sheet 4)

(Joins sheet 6)

(Joins sheet 8)

5000 Feet

1 Kilometer

Scale 1:20000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service.

6

N

R. 14 W.

(Joins sheet 3)

(Joins sheet 5)

(Joins sheet 9)

340 000 FEET

330 000 FEET

320 000 FEET

T. 5 S.

PREVIOUSLY PUBLISHED BOUNDARY

HARRISON COUNTY

5000 Feet

1 Kilometer

Scale - 1:20000

Necaise

Sellers

Creek

Bell

Cypress

White

water

River

17 16 15 14 13

20 21 22 23 24

29 28 27 26 25

32 33 34 35 36

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 7

270 000 FEET

325 000 FEET

R. 15 W.

T. 6 S. | T. 5 S.

(Joins sheet 4)

PEARL RIVER COUNTY

Catahoula Creek

Davis Branch

Branch Pond

Crane Creek

water

(Joins sheet 8)

(Joins sheet 11)

310 000 FEET

290 000 FEET

N

5 000 Feet

1 Kilometer

Scale - 1:20000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 8

(8)

N

5,000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 5)

R. 15 W. | R. 14 W.

315,000 FEET

T. 6 S. | T. 5 S.

325,000 FEET

(Joins sheet 9)

(Joins sheet 7)

310,000 FEET

295,000 FEET

(Joins sheet 12)

water

Cypress Creek

White

Hickory Creek

Bacon Bayou

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 9

R. 14 W.

320 000 FEET

T. 6 S. | T. 5 S.

325 000 FEET

(Joins sheet 6)

(Joins sheet 8)

(Joins sheet 13)

340 000 FEET

310 000 FEET

HARRISON COUNTY

Standard

Bayou Bacon

White Cypress Creek

9

N

5000 Feet

1 Kilometer

Scale - 1:20000

10

N

R. 16 W.

265 000 FEET

310 000 FEET

PEARL RIVER COUNTY

T. 7 S. | T. 6 S.

PEARL RIVER COUNTY

Scale - 1:20000

5 000 Feet

1 Kilometer

295 000 FEET

245 000 FEET

(Joins sheet 15)

(Joins sheet 11)

Blacksnake

Dead Tiger Creek

Crabgrass Creek

Everett Branch Creek

22 23 27 26 30 29 28 31 32 33 34 35 6 5 4 3 2 1

270 000 FEET

310 000 FEET

PEARL RIVER COUNTY

(Joins sheet 7)

(Joins sheet 10)

(Joins sheet 12)

(Joins sheet 16)

295 000 FEET

290 000 FEET

R. 16 W. | R. 15 W.

Mill Creek

Blacksnake Br

Shrub Branch

Pond Branch

Crane Creek

Catahoula Creek

Hickory Creek

Pigeon Roost Branch

Pasture Branch

Cypress Cr

Big Br

Scale - 1:20000

5,000 Feet

1 Kilometer

(12)

N

(Joins sheet 8)

R. 15 W. | R. 14 W.

5000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 11)

(Joins sheet 13)

295 000 FEET

(Joins sheet 17)

T. 6 S.
T. 7 S.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 13

320 000 FEET

R. 14 W.

(Joins sheet 9)

13

N

5 000 Feet

1 Kilometer

Scale - 1:20000

HARRISON COUNTY

310 000 FEET

295 000 FEET

340 000 FEET

(Joins sheet 12)

(Joins sheet 18)

T. 7 S.

T. 6 S.

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service

14

N

5 000 Feet

1 Kilometer

Scale - 1:20000

R. 14 W. | R. 13 W.

(Joins inset, sheet 35)

345 000 FEET

245 000 FEET

Cowand Point

ST LOUIS BAY

BAY ST LOUIS
(county seat)

NASHVILLE AND LOUISVILLE

MISSISSIPPI SOUND

(Joins sheet 31)

T. 9 S. | T. 8 S.

340 000 FEET

230 000 FEET

240 000 FEET

290 000 FEET

280 000 FEET

PEARL RIVER COUNTY

R. 17 W.

Alligator Br

Second Alligator Br

Camp Br

Indian Br

SOUTHERN

LOUISIANA

ST TAMMANY PARISH

PEARL RIVER

Mikes River

T. 7 S.

(Joins sheet 15)

(Joins sheet 19)

This soil survey was completed in ...

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 15

R. 17 W. | R. 16 W.

T. 7 S. | T. 6 S.

15

N

245 000 FEET

290 000 FEET

265 000 FEET

(Joins sheet 10)

(Joins sheet 14)

(Joins sheet 16)

(Joins sheet 20)

PEARL RIVER COUNTY

Turtleskin Creek

Dead Stall Branch

Tiger Bay

Long Creek

SOUTHERN

Santa Rosa

5000 Feet

1 Kilometer

Scale - 1:20000

This soil survey map was compiled by the U. S. Department of Agriculture Soil Conservation Service.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 16

(Joins sheet 11)

R. 16 W. | R. 15 W.

290 000 FEET

T. 7 S. | T. 6 S.

(Joins sheet 17)

240 000 FEET

N

5 000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 15)

280 000 FEET

(Joins sheet 21)

270 000 FEET

Soil Conservation Service

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 17

T. 7 S. | T. 6 S.

R. 15 W. | R. 14 W.

295 000 FEET

290 000 FEET

280 000 FEET

315 000 FEET

(Joins sheet 12)

(Joins sheet 18)

(Joins sheet 16)

(Joins sheet 22)

17

N

5 000 Feet

1 Kilometer

Scale - 1:20000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service,


18
N
(Joins sheet 13)
(Joins sheet 17)
(Joins sheet 23)
R. 14 W.
T. 6 S.
T. 7 S.
HARRISON COUNTY
Scale - 1:20000
0 1000 2000 3000 4000 5000 Feet
0 .5 1 Kilometer
5 000 Feet
280 000 FEET
290 000 FEET
320 000 FEET
Bayou La Terre
Bayou la Salle
Rotten Bayou
32
33
34
35
36
1
2
3
4
5
8
9
10
11
12
13
14
15
16
17
20
21
22
23
24

220 000 FEET

275 000 FEET

236 000 FEET

(Joins lower right)

R. 17 W.

260 000 FEET

PEARL RIVER

PEARL RIVER

21

AR

McCarty Bayou

T. 8 S.

ST TAMMANY PARISH

LOUISIANA

1/12

12/14

14/12

Mikes River

12/13/24

(Joins sheet 24)

250 000 FEET

4000 AND 5000-FOOT GRID TICKS

240 000 FEET

R. 17 W.

(Joins sheet 14)

HlA

SaB

EuB

ScD

SaC

ScD

EsA

24

SaB

SaA

RuC

SaC

23

AR

Pa

Mikes River

AR

8

Pa

27

AR

26

25

Pa

River

ST TAMMANY PARISH

LOUISIANA

35

36

AR

2/1

3/2

(Joins sheet 20)

265 000 FEET

T. 8 S. | T. 7 S.

(Joins upper left)

240 000 FEET

N

5000 Feet

1 Kilometer

Scale - 1:20000

(20)

N

R. 17 W. | R. 16 W.

(Joins sheet 15)

Santa Rosa

SOUTHERN

Long Bay

Dead Tiger Creek

Turtleskin

EuB Creek

Wolf Branch

Double

Lion Branch

Mikes

River

NASA ROCKET TEST FACILITY

5,000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 19)

(Joins sheet 21)

(Joins sheet 24)

245 000 FEET

265 000 FEET

275 000 FEET

T. 8 S. | T. 7 S.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 21

R. 16 W. | R. 15 W.

270 000 FEET

275 000 FEET

(Joins sheet 16)

(Joins sheet 20)

(Joins sheet 22)

(Joins sheet 25)

265 000 FEET

290 000 FEET

T. 8 S. | T. 7 S.

21

N

5,000 Feet

1 Kilometer

Scale - 1:20000

Sam Farve Bay

Double Bay

Wolf Branch

Dead Tiger Branch

Stall Branch

Hurricane Branch

Catahoula Creek

Adgreen Branch

Bacon Bayou

Lion Branch

JOURDAN RIVER

water

NASA ROCKET TEST FACILITY

N

R. 15 W. | R. 14 W.

315 000 FEET

275 000 FEET

265 000 FEET

295 000 FEET

(Joins sheet 17)

(Joins sheet 21)

(Joins sheet 23)

(Joins sheet 26)

Scale - 1:20000

5000 Feet 0 1 Kilometer

5000 4000 3000 2000 1000 0 .5 1

Kiln

Bayou Coco

Bayou Talla

RIVER

JOURDAN

Bayou Mallini

T. 8 S. | T. 7 S.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 23

R. 14 W.

320 000 FEET

(Joins sheet 18)

275 000 FEET

(Joins sheet 22)

(Joins sheet 23)

T. 8 S.

T. 7 S.

265 000 FEET

340 000 FEET

(Joins sheet 27)

HARRISON COUNTY

Silver Creek Acres

Fenton

Bayou La Terre

Rotten Bayou

Mill Coon Creek

Branch

BAYOU ROTTEN

Coco

JOURDAN RIVER

Malitni Bayou

water

Diamondhead

5 000 Feet

1 Kilometer

Scale - 1:20000

N


R. 17 W.
R. 16 W.
(Joins sheet 20)
N
5000 Feet
1 Kilometer
Scale - 1:20000
(Joins inset, sheet 19)
NASA ROCKET TEST FACILITY
Gainesville
HIA
water
SOUTHERN
Bayou Mikes
Harper
McCarty
River
ST TAMMANY PARISH
PEARL
LOUISIANA
RIVER
Little Lake
AR
Su
ScD
SaB
SaC
SaA
HIB
HIA
PoB
Sx
Be
At
Gu
EsA
EsB
SW
T. 8 S.
245 000 FEET
260 000 FEET
(Joins sheet 28)
(Joins sheet 25)

HANCOCK COUNTY, MISSISSIPPI -- SHEET NUMBER 25

R. 16 W. | R. 15 W.

(Joins sheet 21)

270 000 FEET

260 000 FEET

T. 8 S.

NASA ROCKET TEST FACILITY

Devils Swamp

(Joins sheet 24)

(Joins sheet 29)

245 000 FEET

(Joins sheet 26)

N

5 000 Feet

1 Kilometer

Scale - 1:20000

(26)

N

(Joins sheet 22)

R. 15 W. | R. 14 W. SaB

315 000 FEET

260 000 FEET

245 000 FEET

295 000 FEET

(Joins sheet 30)

(Joins sheet 25)

(Joins sheet 27)

T. 8 S.

5000 Feet

1 Kilometer

Scale - 1:20000

JOHN STENNIS AIRPORT

Bayou Mallini

Bayou Marone

water

(Joins sheet 23)

T. 7 S.
T. 8 S.

N

320 000 FEET

260 000 FEET

Malini Bayou

BAYOU ROTTEN

RIVER

Airfield

Enceinte Bayou

JOURDAN

Cutoff Lake

Cutoff Bayou

Umbrella Bayou

Brewer Bayou

La Croix Bayou

Catfish Bayou

water

HARRISON COUNTY

ST LOUIS BAY

Cedar Point

BAY ST LOUIS

EsA EsB HA HIA HIB At Su PoB PoC PoD EuB Pa SaA Sx Oc Pe

(Joins sheet 26)

(Joins sheet 31)

(Joins inset, sheet 35)

245 000 FEET

340 000 FEET

R. 14 W. | R. 13 W.

5000 Feet

1 Kilometer

Scale - 1:20000


28
N
(Joins sheet 24)
R. 16 W.
265 000 FEET
245 000 FEET
(Joins sheet 29)
(Joins sheet 32)
245 000 FEET
230 000 FEET
T. 9 S. | T. 8 S.
Scale 1:20000
5000 Feet
1 Kilometer
Napolean
PEARL RIVER
ST TAMMANY PARISH LOUISIANA
Tower
water
Bogue Homo
20
21
22
23
26
27
28
29
31
32
33
34
35
37
5
6
4
3
2

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 29

R. 16 W. | R. 15 W.

270 000 FEET

245 000 FEET

(Joins sheet 25)

(Joins sheet 28)

(Joins sheet 30)

(Joins sheet 33)

290 000 FEET

T. 9 S. | T. 8 S.

29

N

5000 Feet

1 Kilometer

Scale - 1:20000

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 30

(30)

N

(Joins sheet 26)

R. 15 W. | R. 14 W.

315 000 FEET

24 000 FEET

T. 8 S. | T. 9 S.

(Joins sheet 31)

(Joins sheet 29)

230 000 FEET

(Joins sheet 34)

295 000 FEET

Scale - 1:20000

5000 Feet

1 Kilometer

This soil survey was conducted in cooperation with the Mississippi Agricultural Experiment Station

(Joins sheet 27)

(Joins sheet 30)

(Joins sheet 35)

(Joins inset, sheet 14)

320 000 FEET

340 000 FEET

245 000 FEET

230 000 FEET

T. 9 S. | T. 8 S.

N

5000 Feet

1 Kilometer

Scale - 1:20000

JOURDAN RIVER

ST LOUIS BAY

CAMERON ISLAND

Catfish Bayou

Croix Bayou

Bayou La

Bayou Breath

Bayou Edwards

Bayou Watts

Bayou Joes

Airfield

SEWAGE DISPOSAL

BAY ST LOUIS
(county seat)

NASHVILLE AND LOUISVILLE

MISSISSIPPI SOUND

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 32

32

N

5000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 28)

R. 16 W.

265 000 FEET

T. 9 S.

(Joins sheet 33)

215 000 FEET

245 000 FEET

(Joins sheet 36)

Logtown

Pearlington

SANITARY LANDFILL

Tower

Homa

Bogue

Parker

Bayou

Pate

Whites

LOUISIANA

ST. TAMMANY PARISH

RIVER

PEARL

HA HIB ScD ScB SaB SaC Be Bg At Gu Su Pa Sx TR

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 33

33

R. 16 W. | R. 15 W.

270 000 FEET

(Joins sheet 29)

N

225 000 FEET

T. 9 S.

(Joins sheet 32)

(Joins sheet 34)

215 000 FEET

290 000 FEET

(Joins sheet 37)

5 000 Feet

1 Kilometer

Scale - 1:20000

Lower Devils Swamp

Bayou Mulatto

water

34

N

(Joins sheet 30)

R. 15 W. | R. 14 W.

000 FEET

5000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 33)

215 000 FEET

295 000 FEET

(Joins sheet 38)

(Joins sheet 35)

T. 9 S.

Lower Devils Swamp

Bayside Park

Clermont Harbor

Lakeshore

Turkey Bayou

Sand Bayou

MISSISSIPPI SOUND

NASHVILLE AND LOUISVILLE

Landing Strip

water

This soil survey map was compiled by the U. S. Department of Agriculture Soil Conservation Service.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 35

35

N

320 000 FEET

R. 14 W.

(Joins sheet 31)

T 9 S.

225 000 FEET

(Joins sheet 34)

215 000 FEET

340 000 FEET

Bayside Park

WAVELAND

NASHVILLE AND SW LOUISVILLE

Jackson Marsh

Jackson Ridge

Grand Bayou

Mud Bayou

Holy Cross Boys Camp

SANITARY LANDFILL

BUCCANEER STATE PARK

Clermont Harbor

water

SOUND

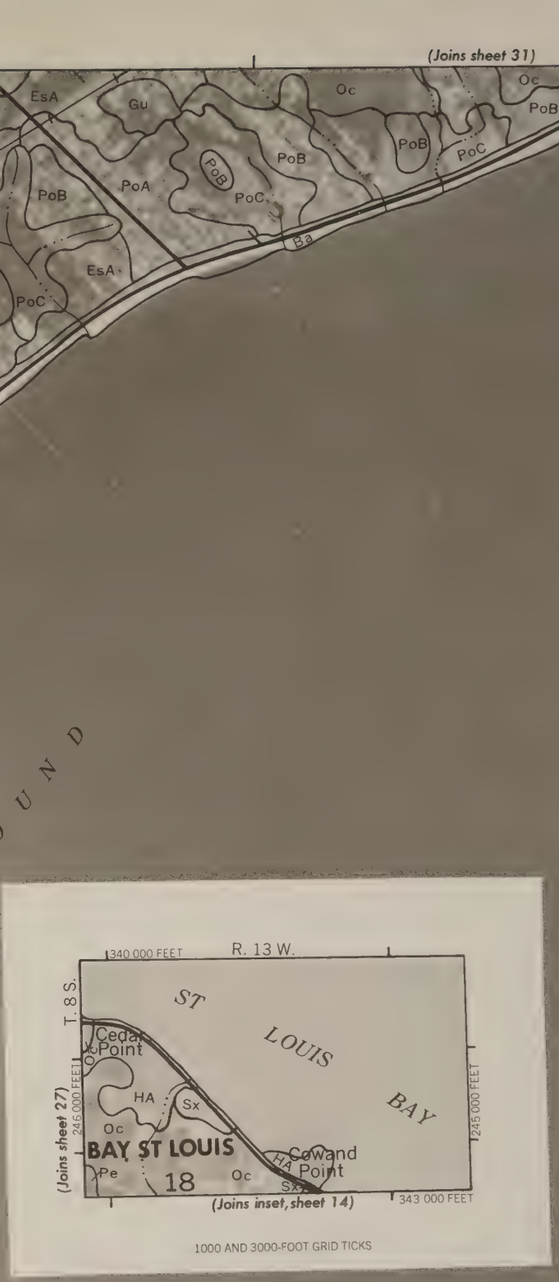
MISSISSIPPI

5 000 Feet

1 Kilometer

Scale - 1:20000

1000 AND 3000-FOOT GRID TICKS



This soil survey map was compiled by the U.S. Department of Agriculture Soil Conservation Service.

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 36

36

N

Scale - 1:20000

5000 Feet

1 Kilometer

(Joins sheet 32)

R. 16 W.

265 000 FEET

210 000 FEET

195 000 FEET

190 000 FEET

200 000 FEET

245 000 FEET

260 000 FEET

Pearlington

SEWAGE DISPOSAL

PEARL RIVER

TAMMANY PARISH

LOUISIANA

Cross Bayou

Whites Bayou

Mulatto water

Bayou Cowan

NASHVILLE AND LOUISVILLE

T. 10 S.

T. 9 S.

(Joins lower right)

(Joins sheet 39)

(Joins sheet 37)

(Joins inset, upper left)

(Joins sheet 33)

(Joins sheet 36)

(Joins sheet 38)

(Joins sheet 39)

270 000 FEET

210 000 FEET

290 000 FEET

200 000 FEET

T. 10 S. | T. 9 S.

R. 16 W. | R. 15 W.

N

5,000 Feet

1 Kilometer

Scale - 1:20000

Bayou Mulatto

Mulatto Bayou

Whites water

water

Woody Bayou

Grand Plains

Plains Bayou

Kimmels Bayou

Bayou Campbell

Inside water

Johns Bayou

NASHVILLE AND LOUISVILLE

Ansley

HANCOCK COUNTY, MISSISSIPPI — SHEET NUMBER 38

38

N

(Joins sheet 34)

R. 15 W. | R. 14 W.

315 000 FEET

210 000 FEET

5000 Feet

1 Kilometer

Scale - 1:20000

(Joins sheet 37)

200 000 FEET

T. 10 S. | T. 9 S.

(Joins sheet 40) | 295 000 FEET

Lakeshore

Point Clear

Ansley

Cedar Island

MISSISSIPPI SOUND

ISLAND

POINT

Sportsmens Lakes

Turkey Bayou

Caddy Bayou

Bryan Bayou

Bayou Bolan

Inside Campbell Outside Bayou

Three Oaks Bayou

Shrimp Bayou

PETERS DITCH

LOUISVILLE AND NASHVILLE

21 22 23 24 25 26 27 28 29 30 31 33 34 35 36 1 2 3 4

Be SaB EsB At Gu HA SaA EsA HIB Sx EuB ScB Bo w water

R. 16 W. | R. 15 W.

270 000 FEET

T. 10 S.

195 000 FEET

(Joins inset, sheet 36)

(Joins sheet 37)

(Joins sheet 40)

180 000 FEET

290 000 FEET

39

N

5000 Feet

1 Kilometer

Scale - 1:20000

HA Bo EuB Sx At

Mulatto Bayou

Grand Plains

NASHVILLE AND LOUISVILLE Grand Plains

Bayou Campbell

Inside Campbell

CAMPBELL 4 ISLAND

Campbell Lagoon

Bayou

Campbell Outside

Jim Brown Bayou

Brush Bayou

water

Baldwin Lodge

PEARL RIVER

GRAND ISLAND

PASS

ST TAMMANY PARISH LOUISIANA

ST BERNARD PARISH LA

40

N

R. 15 W.

315 000 FEET

(Joins sheet 38)

T. 10 S.

HA

Bo

PETERS DITCH

Outside Bayou

Redfish Bayou

Campbell Bayou

Heron Bay

Bayou Three

Shrimp Bayou

Oaks Bayou

Landmark Bayou

Landmans Bayou

Bayou Tonere

Brush Bayou

Lighthouse Bayou

Heron Bay Point

St Joseph Point

Lower Point Clear

H E R O N B A Y

M I S S I S S I P P I

S O U N D

G R A N D I S L A N D P A S S

INDEFINITE BOUNDARY

ST BERNARD PARISH LOUISIANA

(Joins sheet 39)

180 000 FEET

295 000 FEET

5 000 Feet

1 Kilometer

Scale - 1:20000

This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service,

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline
- AD HOC BOUNDARY (label) — Hedley Airstrip
- Small airport, airfield, park, oilfield, cemetery, or flood pool — FLOOD POOL LINE
- STATE COORDINATE TICK
- LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate — 21
- Federal — 173
- State — 28
- County, farm or ranch — 1283

- RAILROAD
- POWER TRANSMISSION LINE (normally not shown)
- PIPE LINE (normally not shown)
- FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale) — water
- Medium or small — w

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) — Indian Mound
- Located object (label) — Tower
- Tank (label) — Gas
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) — CANAL
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial — water, w
- Intermittent — int, i

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

- SOIL DELINEATIONS AND SYMBOLS — MaA, EuB

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)
- SHORT STEEP SLOPE
- GULLY
- DEPRESSION OR SINK
- SOIL SAMPLE SITE (normally not shown) — S

MISCELLANEOUS

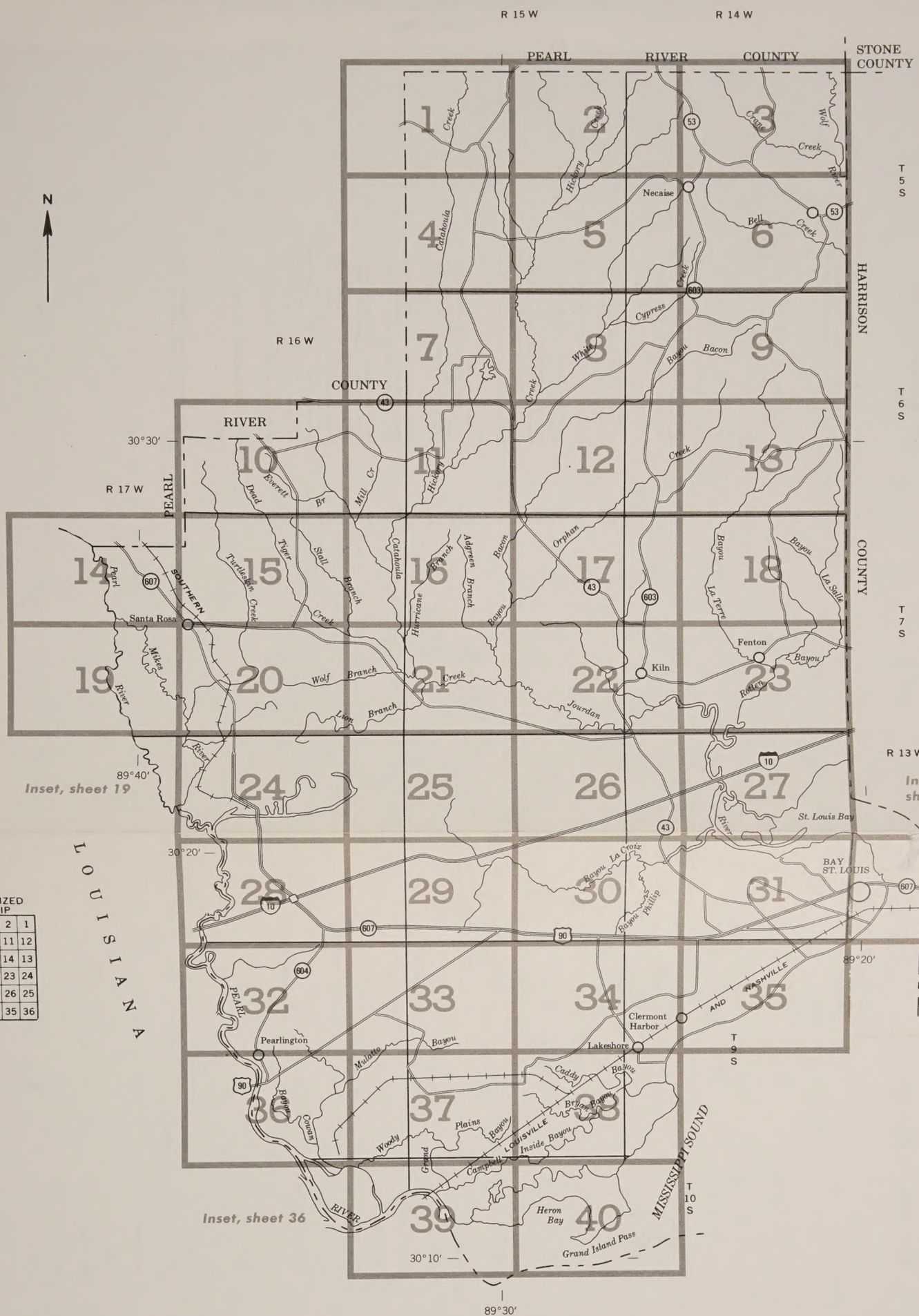
- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot — 0

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The second letter is a capital if the mapping unit is broadly defined 1/; otherwise, it is a small letter. The third letter, if used, is always a capital and shows the slope. Symbols without slope letters are those of nearly level soils or miscellaneous areas.

SYMBOL	NAME
AR	Arkabutla-Rosebloom association, frequently flooded
At	Atmore silt loam
Ba	Beaches
Be	Beauregard silt loam
Bg	Bigbee-Bibb complex, frequently flooded
Bo	Bohicket silty clay
EsA	Escambia loam, 0 to 2 percent slopes
EsB	Escambia loam, 2 to 5 percent slopes
EuB	Eustis loamy fine sand, 2 to 5 percent slopes
Gu	Guyton silt loam
HA	Handsboro association
H1A	Harleston fine sandy loam, 0 to 2 percent slopes
H1B	Harleston fine sandy loam, 2 to 5 percent slopes
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes
MaA	Malbis fine sandy loam, 0 to 2 percent slopes
MaB	Malbis fine sandy loam, 2 to 5 percent slopes
MaC	Malbis fine sandy loam, 5 to 8 percent slopes
McB	McLaurin fine sandy loam, 2 to 5 percent slopes
McC	McLaurin fine sandy loam, 5 to 8 percent slopes
Oc	Ocilla loamy sand
Pa	Pits
Pe	Plummer loamy sand
PoA	Poarch fine sandy loam, 0 to 2 percent slopes
PoB	Poarch fine sandy loam, 2 to 5 percent slopes
PoC	Poarch fine sandy loam, 5 to 8 percent slopes
PoD	Poarch fine sandy loam, 8 to 12 percent slopes
RuA	Ruston fine sandy loam, 0 to 2 percent slopes
RuB	Ruston fine sandy loam, 2 to 5 percent slopes
RuC	Ruston fine sandy loam, 5 to 8 percent slopes
SaA	Saucier fine sandy loam, 0 to 2 percent slopes
SaB	Saucier fine sandy loam, 2 to 5 percent slopes
SaC	Saucier fine sandy loam, 5 to 8 percent slopes
SaD	Saucier fine sandy loam, 8 to 12 percent slopes
ScB	Saucier-Susquehanna complex, 2 to 5 percent slopes
ScD	Saucier-Susquehanna complex, 5 to 12 percent slopes
SmD	Smithdale fine sandy loam, 8 to 12 percent slopes
SmE	Smithdale fine sandy loam, 12 to 17 percent slopes
St	Smithton fine sandy loam, occasionally flooded
Su	Smithton fine sandy loam, frequently flooded
SW	Smithton association, frequently flooded
Sx	Sulfaquepts, sandy
TR	Trebloc association, frequently flooded
W	Water

1/ The composition of these units is more variable than that of others in the survey area but has been controlled well enough to be interpreted for the expected use of the soils.



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS

HANCOCK COUNTY, MISSISSIPPI

Scale 1:190,080

1 0 1 2 3 Miles

1 0 3 6 Km